

pha4262.ST25.txt
SEQUENCE LISTING

<110> Pharmacia Corporation

Stephenson, Diane T

Taylor, Duncan P

<120> Compositions of a Cyclooxygenase-2 Selective Inhibitor and a Calcium Modulating Agent for the Treatment of Central Nervous System Damage

<130> PHA 42620.1

<150> US 60/464,499

<151> 2003-04-22

<160> 26

<170> PatentIn version 3.1

<210> 1

<211> 1873

<212> PRT

<213> Homo sapiens

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Glu Trp Lys Pro Phe Glu Thr Ile Ile Leu Leu Thr Ile Phe Ala Asn
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Cys Val Ala Leu Ala Val Tyr Leu Pro Met Pro Glu Asp Asp Asn Asn
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Ser Leu Asn Leu Gly Leu Glu Lys Leu Glu Tyr Phe Phe Leu Ile Val
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Phe Ser Ile Glu Ala Ala Met Lys Ile Ile Ala Tyr Gly Phe Leu Phe
100 105 110

His Gln Asp Ala Tyr Leu Arg Ser Gly Trp Asn Val Leu Asp Phe Thr
115 120 125

Ile Val Phe Leu Gly Val Phe Thr Val Ile Leu Glu Gln Val Asn Val
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Ile Gln Ser His Thr Ala Pro Met Ser Ser Lys Gly Ala Gly Leu Asp
145 150 155 160

Val Lys Ala Leu Arg Ala Phe Arg Val Leu Arg Pro Leu Arg Leu Val
165 170 175

Ser Gly Val Pro Ser Leu Gln Val Val Leu Asn Ser Ile Phe Lys Ala
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Met Leu Pro Leu Phe His Ile Ala Leu Leu Val Leu Phe Met Val Ile
195 200 205

Ile Tyr Ala Ile Ile Gly Leu Glu Leu Phe Lys Gly Lys Met His Lys
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Thr Cys Tyr Phe Ile Gly Thr Asp Ile Val Ala Thr Val Glu Asn Glu
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Glu Pro Ser Pro Cys Ala Arg Thr Gly Ser Gly Arg Arg Cys Thr Ile
245 250 255

Asn Gly Ser Glu Cys Arg Gly Trp Pro Gly Pro Asn His Gly Ile
260 265 270

Thr His Phe Asp Asn Phe Gly Phe Ser Met Leu Thr Val Tyr Gln Cys
275 280 285

Ile Thr Met Glu Gly Trp Thr Asp Val Leu Tyr Trp Val Asn Asp Ala
290 295 300

Ile Gly Asn Glu Trp Pro Trp Ile Tyr Phe Val Thr Leu Ile Leu Leu
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Gly Ser Phe Phe Ile Leu Asn Leu Val Leu Gly Val Leu Ser Gly Glu
325 330 335

Phe Thr Lys Glu Arg Glu Lys Ala Lys Ser Arg Gly Thr Phe Gln Lys
340 345 350

Leu Arg Glu Lys Gln Gln Leu Asp Glu Asp Leu Arg Gly Tyr Met Ser
355 360 365

Trp Ile Thr Gln Gly Glu Val Met Asp Val Glu Asp Phe Arg Glu Gly
370 375 380

Lys Leu Ser Leu Asp Glu Gly Gly Ser Asp Thr Glu Ser Leu Tyr Glu
385 390 395 400

Ile Ala Gly Leu Asn Lys Ile Ile Gln Phe Ile Arg His Trp Arg Gln
405 410 415

Trp Asn Arg Ile Phe Arg Trp Lys Cys His Asp Ile Val Lys Ser Lys
420 425 430

Val Phe Tyr Trp Leu Val Ile Leu Ile Val Ala Leu Asn Thr Leu Ser
435 440 445

Ile Ala Ser Glu His His Asn Gln Pro Leu Trp Leu Thr Arg Leu Gln
450 455 460

Asp Ile Ala Asn Arg Val Leu Leu Ser Leu Phe Thr Thr Glu Met Leu
465 470 475 480

Met Lys Met Tyr Gly Leu Gly Leu Arg Gln Tyr Phe Met Ser Ile Phe
485 490 495

Asn Arg Phe Asp Cys Phe Val Val Cys Ser Gly Ile Leu Glu Ile Leu
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Leu Val Glu Ser Gly Ala Met Thr Pro Leu Gly Ile Ser Val Leu Arg
515 520 525

Cys Ile Arg Leu Leu Arg Ile Phe Lys Ile Thr Lys Tyr Trp Thr Ser
530 535 540

Leu Ser Asn Leu Val Ala Ser Leu Leu Asn Ser Ile Arg Ser Ile Ala
545 550 555 560

Ser Leu Leu Leu Leu Leu Phe Leu Phe Ile Val Ile Phe Ala Leu Leu
565 570 575

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Gly Met Gln Leu Phe Gly Gly Arg Tyr Asp Phe Glu Asp Thr Glu Val
580 585 590

Arg Arg Ser Asn Phe Asp Asn Phe Pro Gln Ala Leu Ile Ser Val Phe
595 600 605

Gln Val Leu Thr Gly Glu Asp Trp Thr Ser Met Met Tyr Asn Gly Ile
610 615 620

Met Ala Tyr Gly Gly Pro Ser Tyr Pro Gly Met Leu Val Cys Ile Tyr
625 630 635 640

Phe Ile Ile Leu Phe Val Cys Gly Asn Tyr Ile Leu Leu Asn Val Phe
645 650 655

Leu Ala Ile Ala Val Asp Asn Leu Ala Glu Ala Glu Ser Leu Thr Ser
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Ala Gln Lys Ala Lys Ala Glu Glu Lys Lys Arg Arg Lys Met Ser Lys
675 680 685

Gly Leu Pro Asp Lys Ser Glu Glu Glu Lys Ser Thr Met Ala Lys Lys
690 695 700

Leu Glu Gln Lys Pro Lys Gly Glu Gly Ile Pro Thr Thr Ala Lys Leu
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725 730 735

Pro Ser Ala Asp Phe Pro Gly Asp Asp Glu Glu Asp Glu Pro Glu Ile
740 745 750

Pro Leu Ser Pro Arg Pro Arg Pro Leu Ala Glu Leu Gln Leu Lys Glu
755 760 765

Lys Ala Val Pro Ile Pro Glu Ala Ser Ser Phe Phe Ile Phe Ser Pro
770 775 780

Thr Asn Lys Ile Arg Val Leu Cys His Arg Ile Val Asn Ala Thr Trp
785 790 795 800

Phe Thr Asn Phe Ile Leu Leu Phe Ile Leu Leu Ser Ser Ala Ala Leu
805 810 815

Ala Ala Glu Asp Pro Ile Arg Ala Asp Ser Met Arg Asn Gln Ile Leu
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Lys His Phe Asp Ile Gly Phe Thr Ser Val Phe Thr Val Glu Ile Val		
835	840	845
Leu Lys Met Thr Thr Tyr Gly Ala Phe Leu His Lys Gly Ser Phe Cys		
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Arg Asn Tyr Phe Asn Met Leu Asp Leu Leu Val Val Ala Val Ser Leu		
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Ile Ser Met Gly Leu Glu Ser Ser Ala Ile Ser Val Val Lys Ile Leu		
885	890	895
Arg Val Leu Arg Val Leu Arg Pro Leu Arg Ala Ile Asn Arg Ala Lys		
900	905	910
Gly Leu Lys His Val Val Gln Cys Met Phe Val Ala Ile Ser Thr Ile		
915	920	925
Gly Asn Ile Val Leu Val Thr Thr Leu Leu Gln Phe Met Phe Ala Cys		
930	935	940
Ile Gly Val Gln Leu Phe Lys Gly Lys Phe Phe Arg Cys Thr Asp Leu		
945	950	960
Ser Lys Met Thr Glu Glu Gln Cys Arg Gly Tyr Tyr Val Tyr Lys		
965	970	975
Asp Gly Asp Pro Met Gln Ile Glu Leu Arg His Arg Glu Trp Val His		
980	985	990
Ser Asp Phe His Phe Asp Asn Val Leu Ser Ala Met Met Ser Leu Phe		
995	1000	1005
Thr Val Ser Thr Phe Glu Gly Trp Pro Gln Leu Leu Tyr Lys Ala		
1010	1015	1020
Ile Asp Ser Asn Ala Glu Asp Val Gly Pro Ile Tyr Asn Asn Arg		
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Val Glu Met Ala Ile Phe Phe Ile Ile Tyr Ile Ile Leu Ile Ala		
1040	1045	1050
Phe Phe Met Met Asn Ile Phe Val Gly Phe Val Ile Val Thr Phe		
1055	1060	1065

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Gln Glu Gln Gly Glu Thr Glu Tyr Lys Asn Cys Glu Leu Asp Lys
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Asn Gln Arg Gln Cys Val Gln Tyr Ala Leu Lys Ala Arg Pro Leu
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Arg Cys Tyr Ile Pro Lys Asn Pro Tyr Gln Tyr Gln Val Trp Tyr
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1130 1135 1140

Glu Gln Met Asn His Ile Ser Asp Ile Leu Asn Val Ala Phe Thr
1145 1150 1155

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Ala Arg Gly Tyr Phe Gly Asp Pro Trp Asn Val Phe Asp Phe Leu
1175 1180 1185

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1190 1195 1200

Thr Phe Leu Ala Ser Ser Gly Gly Leu Tyr Cys Leu Gly Gly Gly
1205 1210 1215

Cys Gly Asn Val Asp Pro Asp Glu Ser Ala Arg Ile Ser Ser Ala
1220 1225 1230

Phe Phe Arg Leu Phe Arg Val Met Arg Leu Ile Lys Leu Leu Ser
1235 1240 1245

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1250 1255 1260

Phe Gln Ala Leu Pro Tyr Val Ala Leu Leu Ile Val Met Leu Phe
1265 1270 1275

Phe Ile Tyr Ala Val Ile Gly Met Gln Met Phe Gly Lys Ile Ala
1280 1285 1290

Leu Val Asp Gly Thr Gln Ile Asn Arg Asn Asn Phe Gln Thr
1295 1300 1305

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Ala Trp Gln Glu Ile Leu Leu Ala Cys Ser Tyr Gly Lys Leu Cys
1325 1330 1335

Asp Pro Glu Ser Asp Tyr Ala Pro Gly Glu Glu Tyr Thr Cys Gly
1340 1345 1350

Thr Asn Phe Ala Tyr Tyr Tyr Phe Ile Ser Phe Tyr Met Leu Cys
1355 1360 1365

Ala Phe Leu Val Ile Asn Leu Phe Val Ala Val Ile Met Asp Asn
1370 1375 1380

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1400 1405 1410

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Ile Gln Pro Pro Leu Gly Phe Gly Lys Phe Cys Pro His Arg Val
1430 1435 1440

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1445 1450 1455

Gly Thr Val Thr Phe Asn Ala Thr Leu Phe Ala Leu Val Gly Thr
1460 1465 1470

Ala Leu Lys Ile Lys Thr Glu Gly Asn Phe Glu Gln Ala Asn Glu
1475 1480 1485

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1490 1495 1500

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Thr Val Gly Lys Phe Tyr Ala Thr Phe Leu Ile Gln Glu Asp Phe
1520 1525 1530

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1535 1540 1545

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1595 1600 1605

Asp Asn Phe Leu Glu Arg Thr Asn Ser Leu Pro Pro Val Met Ala
1610 1615 1620

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1625 1630 1635

Glu Ser Pro Val Phe Leu Glu Asp Phe Pro Gln Asp Pro Arg Thr
1640 1645 1650

Asn Pro Leu Ala Arg Ala Asn Thr Asn Asn Ala Asn Ala Asn Val
1655 1660 1665

Ala Tyr Gly Asn Ser Asn His Ser Asn Ser His Val Phe Ser Ser
1670 1675 1680

Val His Tyr Glu Arg Glu Phe Pro Glu Glu Thr Glu Thr Pro Ala
1685 1690 1695

Thr Arg Gly Arg Ala Leu Gly Gln Pro Cys Arg Val Leu Gly Pro
1700 1705 1710

His Ser Lys Pro Cys Val Glu Met Leu Lys Gly Leu Leu Thr Gln
1715 1720 1725

Arg Ala Met Pro Arg Gly Gln Ala Pro Pro Ala Pro Cys Gln Cys
1730 1735 1740

Pro Arg Val Glu Ser Ser Met Pro Glu Asp Arg Lys Ser Ser Thr
1745 1750 1755

Pro Gly Ser Leu His Glu Glu Thr Pro His Ser Arg Ser Thr Arg
1760 1765 1770

Glu Asn Thr Ser Arg Cys Ser Ala Pro Ala Thr Ala Leu Leu Ile
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1775

1780

1785

Gln Lys Ala Leu Val Arg Gly Gly Leu Gly Thr Leu Ala Ala Asp
1790 1795 1800

Ala Asn Phe Ile Met Ala Thr Gly Gln Ala Leu Gly Asp Ala Cys
1805 1810 1815

Gln Met Glu Pro Glu Glu Val Glu Ile Met Ala Thr Glu Leu Leu
1820 1825 1830

Lys Gly Arg Glu Ala Pro Glu Gly Met Ala Ser Ser Leu Gly Cys
1835 1840 1845

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1850 1855 1860

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1865 1870

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<211> 1873

<212> PRT

<213> Homo sapiens

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35 40 45

Glu Trp Lys Pro Phe Glu Thr Ile Ile Leu Leu Thr Ile Phe Ala Asn
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Cys Val Ala Leu Ala Val Tyr Leu Pro Met Pro Glu Asp Asp Asn Asn
65 70 75 80

Ser Leu Asn Leu Gly Leu Glu Lys Leu Glu Tyr Phe Phe Leu Ile Val
85 90 95

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Phe Ser Ile Glu Ala Ala Met Lys Ile Ile Ala Tyr Gly Phe Leu Phe
100 105 110

His Gln Asp Ala Tyr Leu Arg Ser Gly Trp Asn Val Leu Asp Phe Thr
115 120 125

Ile Val Phe Leu Gly Val Phe Thr Val Ile Leu Glu Gln Val Asn Val
130 135 140

Ile Gln Ser His Thr Ala Pro Met Ser Ser Lys Gly Ala Gly Leu Asp
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Val Lys Ala Leu Arg Ala Phe Arg Val Leu Arg Pro Leu Arg Leu Val
165 170 175

Ser Gly Val Pro Ser Leu Gln Val Val Leu Asn Ser Ile Phe Lys Ala
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Met Leu Pro Leu Phe His Ile Ala Leu Leu Val Leu Phe Met Val Ile
195 200 205

Ile Tyr Ala Ile Ile Gly Leu Glu Leu Phe Lys Gly Lys Met His Lys
210 215 220

Thr Cys Tyr Phe Ile Gly Thr Asp Ile Val Ala Thr Val Glu Asn Glu
225 230 235 240

Glu Pro Ser Pro Cys Ala Arg Thr Gly Ser Gly Arg Arg Cys Thr Ile
245 250 255

Asn Gly Ser Glu Cys Arg Gly Gly Cys Pro Gly Pro Asn His Gly Ile
260 265 270

Thr His Phe Asp Asn Phe Gly Phe Ser Met Leu Thr Val Tyr Gln Cys
275 280 285

Ile Thr Met Glu Gly Trp Thr Asp Val Leu Tyr Trp Val Asn Asp Ala
290 295 300

Ile Gly Asn Glu Trp Pro Trp Ile Tyr Phe Val Thr Leu Ile Leu Leu
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Gly Ser Phe Phe Ile Leu Asn Leu Val Leu Gly Val Leu Ser Gly Glu
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Phe Thr Lys Glu Arg Glu Lys Ala Lys Ser Arg Gly Thr Phe Gln Lys
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370 375 380

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385 390 395 400

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Val Phe Tyr Trp Leu Val Ile Leu Ile Val Ala Leu Asn Thr Leu Ser
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Arg Arg Ser Asn Phe Asp Asn Phe Pro Gln Ala Leu Ile Ser Val Phe
595 600 605

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Ala Gln Lys Ala Lys Ala Glu Glu Lys Lys Arg Arg Lys Met Ser Lys
675 680 685

Gly Leu Pro Asp Lys Ser Glu Glu Glu Lys Ser Thr Met Ala Lys Lys
690 695 700

Leu Glu Gln Lys Pro Lys Gly Glu Gly Ile Pro Thr Thr Ala Lys Leu
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Lys Ile Asp Glu Phe Glu Ser Asn Val Asn Glu Val Lys Asp Pro Tyr
725 730 735

Pro Ser Ala Asp Phe Pro Gly Asp Asp Glu Glu Asp Glu Pro Glu Ile
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Pro Leu Ser Pro Arg Pro Arg Pro Leu Ala Glu Leu Gln Leu Lys Glu
755 760 765

Lys Ala Val Pro Ile Pro Glu Ala Ser Ser Phe Phe Ile Phe Ser Pro
770 775 780

Thr Asn Lys Ile Arg Val Leu Cys His Arg Ile Val Asn Ala Thr Trp
785 790 795 800

Phe Thr Asn Phe Ile Leu Leu Phe Ile Leu Leu Ser Ser Ala Ala Leu
805 810 815

Ala Ala Glu Asp Pro Ile Arg Ala Asp Ser Met Arg Asn Gln Ile Leu
820 825 830

Lys His Phe Asp Ile Gly Phe Thr Ser Val Phe Thr Val Glu Ile Val
835 840 845

Leu Lys Met Thr Thr Tyr Gly Ala Phe Leu His Lys Gly Ser Phe Cys

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915 920 925

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930 935 940

Ile Gly Val Gln Leu Phe Lys Gly Lys Phe Phe Arg Cys Thr Asp Leu
945 950 955 960

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965 970 975

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980 985 990

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995 1000 1005

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1220 1225 1230

Phe Phe Arg Leu Phe Arg Val Met Arg Leu Ile Lys Leu Leu Ser
1235 1240 1245

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1250 1255 1260

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1280 1285 1290

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1295 1300 1305

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1325 1330 1335

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Phe Asp Tyr Leu Thr Arg Asp Trp Ser Ile Leu Gly Pro His His
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1415 1420 1425

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Ala Cys Lys Arg Leu Val Gly Met Asn Met Pro Leu Asn Ser Asp
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Gly Thr Val Thr Phe Asn Ala Thr Leu Phe Ala Leu Val Arg Thr
1460 1465 1470

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Glu Leu Arg Ala Ile Ile Lys Lys Ile Trp Lys Arg Thr Ser Met
1490 1495 1500

Lys Leu Leu Asp Gln Val Ile Pro Pro Ile Gly Asp Asp Glu Val
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Glu Glu Gly Ile Phe Arg Arg Thr Gly Gly Leu Phe Gly Gln Val
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1625 1630 1635

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1640 1645 1650

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1655 1660 1665

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1670 1675 1680

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1685 1690 1695

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1700 1705 1710

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1715 1720 1725

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1730 1735 1740

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1745 1750 1755

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1775 1780 1785

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1790 1795 1800

Ala Asn Phe Ile Met Ala Thr Gly Gln Ala Leu Gly Asp Ala Cys

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1805

1810

1815

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1850 1855 1860

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1865 1870

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<212> PRT

<213> Homo sapiens

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85 90 95

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100 105 110

Ile Arg Arg Ala Cys Ile Ser Ile Val Glu Trp Lys Pro Phe Glu Ile
115 120 125

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Ile Pro Phe Pro Glu Asp Asp Ser Asn Ala Thr Asn Ser Asn Leu Glu
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Arg Val Glu Tyr Leu Phe Leu Ile Ile Phe Thr Val Glu Ala Phe Leu
165 170 175

Lys Val Ile Ala Tyr Gly Leu Leu Phe His Pro Asn Ala Tyr Leu Arg
180 185 190

Asn Gly Trp Asn Leu Leu Asp Phe Ile Ile Val Val Val Gly Leu Phe
195 200 205

Ser Ala Ile Leu Glu Gln Ala Thr Lys Ala Asp Gly Ala Asn Ala Leu
210 215 220

Gly Gly Lys Gly Ala Gly Phe Asp Val Lys Ala Leu Arg Ala Phe Arg
225 230 235 240

Val Leu Arg Pro Leu Arg Leu Val Ser Gly Val Pro Ser Leu Gln Val
245 250 255

Val Leu Asn Ser Ile Ile Lys Ala Met Val Pro Leu Leu His Ile Ala
260 265 270

Leu Leu Val Leu Phe Val Ile Ile Ile Tyr Ala Ile Ile Gly Leu Glu
275 280 285

Leu Phe Met Gly Lys Met His Lys Thr Cys Tyr Asn Gln Glu Gly Ile
290 295 300

Ala Asp Val Pro Ala Glu Asp Asp Pro Ser Pro Cys Ala Leu Glu Thr
305 310 315 320

Gly His Gly Arg Gln Cys Gln Asn Gly Thr Val Cys Lys Pro Gly Trp
325 330 335

Asp Gly Pro Lys His Gly Ile Thr Asn Phe Asp Asn Phe Ala Phe Ala
340 345 350

Met Leu Thr Val Phe Gln Cys Ile Thr Met Glu Gly Trp Thr Asp Val
355 360 365

Leu Tyr Trp Val Asn Asp Ala Val Gly Arg Asp Trp Pro Trp Ile Tyr
370 375 380

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Phe Val Thr Leu Ile Ile Gly Ser Phe Phe Val Leu Asn Leu Val
385 390 395 400

Leu Gly Val Leu Ser Gly Glu Phe Ser Lys Glu Arg Glu Lys Ala Lys
405 410 415

Ala Arg Gly Asp Phe Gln Lys Leu Arg Glu Lys Gln Gln Leu Glu Glu
420 425 430

Asp Leu Lys Gly Tyr Leu Asp Trp Ile Thr Gln Ala Glu Asp Ile Asp
435 440 445

Pro Glu Asn Glu Asp Glu Gly Met Asp Glu Glu Lys Pro Arg Asn Met
450 455 460

Ser Met Pro Thr Ser Glu Thr Glu Ser Val Asn Thr Glu Asn Val Ala
465 470 475 480

Gly Gly Asp Ile Glu Gly Glu Asn Cys Gly Ala Arg Leu Ala His Arg
485 490 495

Ile Ser Lys Ser Lys Phe Ser Arg Tyr Trp Arg Arg Trp Asn Arg Phe
500 505 510

Cys Arg Arg Lys Cys Arg Ala Ala Val Lys Ser Asn Val Phe Tyr Trp
515 520 525

Leu Val Ile Phe Leu Val Phe Leu Asn Thr Leu Thr Ile Ala Ser Glu
530 535 540

His Tyr Asn Gln Pro Asn Trp Leu Thr Glu Val Gln Asp Thr Ala Asn
545 550 555 560

Lys Ala Leu Leu Ala Leu Phe Thr Ala Glu Met Leu Leu Lys Met Tyr
565 570 575

Ser Leu Gly Leu Gln Ala Tyr Phe Val Ser Leu Phe Asn Arg Phe Asp
580 585 590

Cys Phe Val Val Cys Gly Gly Ile Leu Glu Thr Ile Leu Val Glu Thr
595 600 605

Lys Ile Met Ser Pro Leu Gly Ile Ser Val Leu Arg Cys Val Arg Leu
610 615 620

Leu Arg Ile Phe Lys Ile Thr Arg Tyr Trp Asn Ser Leu Ser Asn Leu
625 630 635 640

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Val Ala Ser Leu Leu Asn Ser Val Arg Ser Ile Ala Ser Leu Leu Leu
645 650 655

Leu Leu Phe Leu Phe Ile Ile Ile Phe Ser Leu Leu Gly Met Gln Leu
660 665 670

Phe Gly Gly Lys Phe Asn Phe Asp Glu Met Gln Thr Arg Arg Ser Thr
675 680 685

Phe Asp Asn Phe Pro Gln Ser Leu Leu Thr Val Phe Gln Ile Leu Thr
690 695 700

Gly Glu Asp Trp Asn Ser Val Met Tyr Asp Gly Ile Met Ala Tyr Gly
705 710 715 720

Gly Pro Ser Phe Pro Gly Met Leu Val Cys Ile Tyr Phe Ile Ile Leu
725 730 735

Phe Ile Cys Gly Asn Tyr Ile Leu Leu Asn Val Phe Leu Ala Ile Ala
740 745 750

Val Asp Asn Leu Ala Asp Ala Glu Ser Leu Thr Ser Ala Gln Lys Glu
755 760 765

Glu Glu Glu Glu Lys Glu Arg Lys Lys Leu Ala Arg Thr Ala Ser Pro
770 775 780

Glu Lys Lys Gln Glu Leu Val Glu Lys Pro Ala Val Gly Glu Ser Lys
785 790 795 800

Glu Glu Lys Ile Glu Leu Lys Ser Ile Thr Ala Asp Gly Glu Ser Pro
805 810 815

Pro Ala Thr Lys Ile Asn Met Asp Asp Leu Gln Pro Asn Glu Asn Glu
820 825 830

Asp Lys Ser Pro Tyr Pro Asn Pro Glu Thr Thr Gly Glu Glu Asp Glu
835 840 845

Glu Glu Pro Glu Met Pro Val Gly Pro Arg Pro Arg Pro Leu Ser Glu
850 855 860

Leu His Leu Lys Glu Lys Ala Val Pro Met Pro Glu Ala Ser Ala Phe
865 870 875 880

Phe Ile Phe Ser Ser Asn Asn Arg Phe Arg Leu Gln Cys His Arg Ile
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885

890

895

Val Asn Asp Thr Ile Phe Thr Asn Leu Ile Leu Phe Phe Ile Leu Leu
 900 905 910

Ser Ser Ile Ser Leu Ala Ala Glu Asp Pro Val Gln His Thr Ser Phe
 915 920 925

Arg Asn His Ile Leu Phe Tyr Phe Asp Ile Val Phe Thr Thr Ile Phe
 930 935 940

Thr Ile Glu Ile Ala Leu Lys Ile Leu Gly Asn Ala Asp Tyr Val Phe
 945 950 955 960

Thr Ser Ile Phe Thr Leu Glu Ile Ile Leu Lys Met Thr Ala Tyr Gly
 965 970 975

Ala Phe Leu His Lys Gly Ser Phe Cys Arg Asn Tyr Phe Asn Ile Leu
 980 985 990

Asp Leu Leu Val Val Ser Val Ser Leu Ile Ser Phe Gly Ile Gln Ser
 995 1000 1005

Ser Ala Ile Asn Val Val Lys Ile Leu Arg Val Leu Arg Val Leu
 1010 1015 1020

Arg Pro Leu Arg Ala Ile Asn Arg Ala Lys Gly Leu Lys His Val
 1025 1030 1035

Val Gln Cys Val Phe Val Ala Ile Arg Thr Ile Gly Asn Ile Val
 1040 1045 1050

Ile Val Thr Thr Leu Leu Gln Phe Met Phe Ala Cys Ile Gly Val
 1055 1060 1065

Gln Leu Phe Lys Gly Lys Leu Tyr Thr Cys Ser Asp Ser Ser Lys
 1070 1075 1080

Gln Thr Glu Ala Glu Cys Lys Gly Asn Tyr Ile Thr Tyr Lys Asp
 1085 1090 1095

Gly Glu Val Asp His Pro Ile Ile Gln Pro Arg Ser Trp Glu Asn
 1100 1105 1110

Ser Lys Phe Asp Phe Asp Asn Val Leu Ala Ala Met Met Ala Leu
 1115 1120 1125

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Phe Thr Val Ser Thr Phe Glu Gly Trp Pro Glu Leu Leu Tyr Arg
1130 1135 1140

Ser Ile Asp Ser His Thr Glu Asp Lys Gly Pro Ile Tyr Asn Tyr
1145 1150 1155

Arg Val Glu Ile Ser Ile Phe Phe Ile Ile Tyr Ile Ile Ile
1160 1165 1170

Ala Phe Phe Met Met Asn Ile Phe Val Gly Phe Val Ile Val Thr
1175 1180 1185

Phe Gln Glu Gln Gly Glu Gln Glu Tyr Lys Asn Cys Glu Leu Asp
1190 1195 1200

Lys Asn Gln Arg Gln Cys Val Glu Tyr Ala Leu Lys Ala Arg Pro
1205 1210 1215

Leu Arg Arg Tyr Ile Pro Lys Asn Gln His Gln Tyr Lys Val Trp
1220 1225 1230

Tyr Val Val Asn Ser Thr Tyr Phe Glu Tyr Leu Met Phe Val Leu
1235 1240 1245

Ile Leu Leu Asn Thr Ile Cys Leu Ala Met Gln His Tyr Gly Gln
1250 1255 1260

Ser Cys Leu Phe Lys Ile Ala Met Asn Ile Leu Asn Met Leu Phe
1265 1270 1275

Thr Gly Leu Phe Thr Val Glu Met Ile Leu Lys Leu Ile Ala Phe
1280 1285 1290

Lys Pro Lys Gly Tyr Phe Ser Asp Pro Trp Asn Val Phe Asp Phe
1295 1300 1305

Leu Ile Val Ile Gly Ser Ile Ile Asp Val Ile Leu Ser Glu Thr
1310 1315 1320

Asn His Tyr Phe Cys Asp Ala Trp Asn Thr Phe Asp Ala Leu Ile
1325 1330 1335

Val Val Gly Ser Ile Val Asp Ile Ala Ile Thr Glu Val Asn Pro
1340 1345 1350

Ala Glu His Thr Gln Cys Ser Pro Ser Met Asn Ala Glu Glu Asn
1355 1360 1365

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Ser Arg Ile Ser Ile Thr Phe Phe Arg Leu Phe Arg Val Met Arg
1370 1375 1380

Leu Val Lys Leu Leu Ser Arg Gly Glu Gly Ile Arg Thr Leu Leu
1385 1390 1395

Trp Thr Phe Ile Lys Ser Phe Gln Ala Leu Pro Tyr Val Ala Leu
1400 1405 1410

Leu Ile Val Met Leu Phe Phe Ile Tyr Ala Val Ile Gly Met Gln
1415 1420 1425

Val Phe Gly Lys Ile Ala Leu Asn Asp Thr Thr Glu Ile Asn Arg
1430 1435 1440

Asn Asn Asn Phe Gln Thr Phe Pro Gln Ala Val Leu Leu Leu Phe
1445 1450 1455

Arg Cys Ala Thr Gly Glu Ala Trp Gln Asp Ile Met Leu Ala Cys
1460 1465 1470

Met Pro Gly Lys Lys Cys Ala Pro Glu Ser Glu Pro Ser Asn Ser
1475 1480 1485

Thr Glu Gly Glu Thr Pro Cys Gly Ser Ser Phe Ala Val Phe Tyr
1490 1495 1500

Phe Ile Ser Phe Tyr Met Leu Cys Ala Phe Leu Ile Ile Asn Leu
1505 1510 1515

Phe Val Ala Val Ile Met Asp Asn Phe Asp Tyr Leu Thr Arg Asp
1520 1525 1530

Trp Ser Ile Leu Gly Pro His His Leu Asp Glu Phe Lys Arg Ile
1535 1540 1545

Trp Ala Glu Tyr Asp Pro Glu Ala Lys Gly Arg Ile Lys His Leu
1550 1555 1560

Asp Val Val Thr Leu Leu Arg Arg Ile Gln Pro Pro Leu Gly Phe
1565 1570 1575

Gly Lys Leu Cys Pro His Arg Val Ala Cys Lys Arg Leu Val Ser
1580 1585 1590

Met Asn Met Pro Leu Asn Ser Asp Gly Thr Val Met Phe Asn Ala
1595 1600 1605

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Thr Leu Phe Ala Leu Val Arg Thr Ala Leu Arg Ile Lys Thr Glu
1610 1615 1620

Gly Asn Leu Glu Gln Ala Asn Glu Glu Leu Arg Ala Ile Ile Lys
1625 1630 1635

Lys Ile Trp Lys Arg Thr Ser Met Lys Leu Leu Asp Gln Val Val
1640 1645 1650

Pro Pro Ala Gly Asp Asp Glu Val Thr Val Gly Lys Phe Tyr Ala
1655 1660 1665

Thr Phe Leu Ile Gln Glu Tyr Phe Arg Lys Phe Lys Lys Arg Lys
1670 1675 1680

Glu Gln Gly Leu Val Gly Lys Pro Ser Gln Arg Asn Ala Leu Ser
1685 1690 1695

Leu Gln Ala Gly Leu Arg Thr Leu His Asp Ile Gly Pro Glu Ile
1700 1705 1710

Arg Arg Ala Ile Ser Gly Asp Leu Thr Ala Glu Glu Glu Leu Asp
1715 1720 1725

Lys Ala Met Lys Glu Ala Val Ser Ala Ala Ser Glu Asp Asp Ile
1730 1735 1740

Phe Arg Arg Ala Gly Gly Leu Phe Gly Asn His Val Ser Tyr Tyr
1745 1750 1755

Gln Ser Asp Gly Arg Ser Ala Phe Pro Gln Thr Phe Thr Thr Gln
1760 1765 1770

Arg Pro Leu His Ile Asn Lys Ala Gly Ser Ser Gln Gly Asp Thr
1775 1780 1785

Glu Ser Pro Ser His Glu Lys Leu Val Asp Ser Thr Phe Thr Pro
1790 1795 1800

Ser Ser Tyr Ser Ser Thr Gly Ser Asn Ala Asn Ile Asn Asn Ala
1805 1810 1815

Asn Asn Thr Ala Leu Gly Arg Leu Pro Arg Pro Ala Gly Tyr Pro
1820 1825 1830

Ser Thr Val Ser Thr Val Glu Gly His Gly Pro Pro Leu Ser Pro
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1835	1840	1845
Ala Ile Arg Val Gln Glu Val	Ala Trp Lys Leu Ser	Ser Asn Arg
1850	1855	1860
Glu Arg His Val Pro Val Cys	Glu Asp Leu Glu Leu	Arg Arg Asp
1865	1870	1875
Ser Gly Ser Ala Gly Thr Gln	Ala His Cys Leu Leu	Leu Arg Arg
1880	1885	1890
Ala Asn Pro Ser Arg Cys His	Ser Arg Glu Ser Gln	Ala Ala Met
1895	1900	1905
Ala Gly Gln Glu Glu Thr Ser	Gln Asp Glu Thr Tyr	Glu Val Lys
1910	1915	1920
Met Asn His Asp Thr Glu Ala	Cys Ser Glu Pro Ser	Leu Leu Ser
1925	1930	1935
Thr Glu Met Leu Ser Tyr Gln	Asp Asp Glu Asn Arg	Gln Leu Thr
1940	1945	1950
Leu Pro Glu Glu Asp Lys Arg	Asp Ile Arg Gln Ser	Pro Lys Arg
1955	1960	1965
Gly Phe Leu Arg Ser Ala Ser	Leu Gly Arg Arg Ala	Ser Phe His
1970	1975	1980
Leu Glu Cys Leu Lys Arg Gln	Lys Asp Arg Gly Gly	Asp Ile Ser
1985	1990	1995
Gln Lys Thr Val Leu Pro Leu	His Leu Val His His	Gln Ala Leu
2000	2005	2010
Ala Val Ala Gly Leu Ser Pro	Leu Leu Gln Arg Ser	His Ser Pro
2015	2020	2025
Ala Ser Phe Pro Arg Pro Phe	Ala Thr Pro Pro Ala	Thr Pro Gly
2030	2035	2040
Ser Arg Gly Trp Pro Pro Gln	Pro Val Pro Thr Leu	Arg Leu Glu
2045	2050	2055
Gly Val Glu Ser Ser Glu Lys	Leu Asn Ser Ser Phe	Pro Ser Ile
2060	2065	2070

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His Cys Gly Ser Trp Ala Glu Thr Thr Pro Gly Gly Gly Gly Ser
2075 2080 2085

Ser Ala Ala Arg Arg Val Arg Pro Val Ser Leu Met Val Pro Ser
2090 2095 2100

Gln Ala Gly Ala Pro Gly Arg Gln Phe His Gly Ser Ala Ser Ser
2105 2110 2115

Leu Val Glu Ala Val Leu Ile Ser Glu Gly Leu Gly Gln Phe Ala
2120 2125 2130

Gln Asp Pro Lys Phe Ile Glu Val Thr Thr Gln Glu Leu Ala Asp
2135 2140 2145

Ala Cys Asp Met Thr Ile Glu Glu Met Glu Ser Ala Ala Asp Asn
2150 2155 2160

Ile Leu Ser Gly Gly Ala Pro Gln Ser Pro Asn Gly Ala Leu Leu
2165 2170 2175

Pro Phe Val Asn Cys Arg Asp Ala Gly Gln Asp Arg Ala Gly Gly
2180 2185 2190

Glu Glu Asp Ala Gly Cys Val Arg Ala Arg Gly Ala Pro Ser Glu
2195 2200 2205

Glu Glu Leu Gln Asp Ser Arg Val Tyr Val Ser Ser Leu
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<211> 2161

<212> PRT

<213> Homo sapiens

<400> 4

Met Met Met Met Met Met Lys Lys Met Gln His Gln Arg Gln Gln
1 5 10 15

Gln Ala Asp His Ala Asn Glu Ala Asn Tyr Ala Arg Gly Thr Arg Leu
20 25 30

Pro Leu Ser Gly Glu Gly Pro Thr Ser Gln Pro Asn Ser Ser Lys Gln
35 40 45

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Thr Val Leu Ser Trp Gln Ala Ala Ile Asp Ala Ala Arg Gln Ala Lys
50 55 60

Ala Ala Gln Thr Met Ser Thr Ser Ala Pro Pro Pro Val Gly Ser Leu
65 70 75 80

Ser Gln Arg Lys Arg Gln Gln Tyr Ala Lys Ser Lys Lys Gln Gly Asn
85 90 95

Ser Ser Asn Ser Arg Pro Ala Arg Ala Leu Phe Cys Leu Ser Leu Asn
100 105 110

Asn Pro Ile Arg Arg Ala Cys Ile Ser Ile Val Glu Trp Lys Pro Phe
115 120 125

Asp Ile Phe Ile Leu Leu Ala Ile Phe Ala Asn Cys Val Ala Leu Ala
130 135 140

Ile Tyr Ile Pro Phe Pro Glu Asp Asp Ser Asn Ser Thr Asn His Asn
145 150 155 160

Leu Glu Lys Val Glu Tyr Ala Phe Leu Ile Ile Phe Thr Val Glu Thr
165 170 175

Phe Leu Lys Ile Ile Ala Tyr Gly Leu Leu Leu His Pro Asn Ala Tyr
180 185 190

Val Arg Asn Gly Trp Asn Leu Leu Asp Phe Val Ile Val Ile Val Gly
195 200 205

Leu Phe Ser Val Ile Leu Glu Gln Leu Thr Lys Glu Thr Glu Gly Gly
210 215 220

Asn His Ser Ser Gly Lys Ser Gly Gly Phe Asp Val Lys Ala Leu Arg
225 230 235 240

Ala Phe Arg Val Leu Arg Pro Leu Arg Leu Val Ser Gly Val Pro Ser
245 250 255

Leu Gln Val Val Leu Asn Ser Ile Ile Lys Ala Met Val Pro Leu Leu
260 265 270

His Ile Ala Leu Leu Val Leu Phe Val Ile Ile Ile Tyr Ala Ile Ile
275 280 285

Gly Leu Glu Leu Phe Ile Gly Lys Met His Lys Thr Cys Phe Phe Ala
290 295 300

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Asp Ser Asp Ile Val Ala Glu Glu Asp Pro Ala Pro Cys Ala Phe Ser
305 310 315 320

Gly Asn Gly Arg Gln Cys Thr Ala Asn Gly Thr Glu Cys Arg Ser Gly
325 330 335

Trp Val Gly Pro Asn Gly Ile Thr Asn Phe Asp Asn Phe Ala Phe
340 345 350

Ala Met Leu Thr Val Phe Gln Cys Ile Thr Met Glu Gly Trp Thr Asp
355 360 365

Val Leu Tyr Trp Met Asn Asp Ala Met Gly Phe Glu Leu Pro Trp Val
370 375 380

Tyr Phe Val Ser Leu Val Ile Phe Gly Ser Phe Phe Val Leu Asn Leu
385 390 395 400

Val Leu Gly Val Leu Ser Gly Glu Phe Ser Lys Glu Arg Glu Lys Ala
405 410 415

Lys Ala Arg Gly Asp Phe Gln Lys Leu Arg Glu Lys Gln Gln Leu Glu
420 425 430

Glu Asp Leu Lys Gly Tyr Leu Asp Trp Ile Thr Gln Ala Glu Asp Ile
435 440 445

Asp Pro Glu Asn Glu Glu Gly Glu Glu Gly Lys Arg Asn Thr
450 455 460

Ser Met Pro Thr Ser Glu Thr Glu Ser Val Asn Thr Glu Asn Val Ser
465 470 475 480

Gly Glu Gly Glu Asn Arg Gly Cys Cys Gly Ser Leu Cys Gln Ala Ile
485 490 495

Ser Lys Ser Lys Leu Ser Arg Arg Trp Arg Arg Trp Asn Arg Phe Asn
500 505 510

Arg Arg Arg Cys Arg Ala Ala Val Lys Ser Val Thr Phe Tyr Trp Leu
515 520 525

Val Ile Val Leu Val Phe Leu Asn Thr Leu Thr Ile Ser Ser Glu His
530 535 540

Tyr Asn Gln Pro Asp Trp Leu Thr Gln Ile Gln Asp Ile Ala Asn Lys
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545

550

555

560

Val Leu Leu Ala Leu Phe Thr Cys Glu Met Leu Val Lys Met Tyr Ser
565 570 575

Leu Gly Leu Gln Ala Tyr Phe Val Ser Leu Phe Asn Arg Phe Asp Cys
580 585 590

Phe Val Val Cys Gly Gly Ile Thr Glu Thr Ile Leu Val Glu Leu Glu
595 600 605

Ile Met Ser Pro Leu Gly Ile Ser Val Phe Arg Cys Val Arg Leu Leu
610 615 620

Arg Ile Phe Lys Val Thr Arg His Trp Thr Ser Leu Cys Asn Leu Val
625 630 635 640

Ala Ser Leu Leu Asn Ser Met Lys Ser Ser Ala Ser Leu Leu Leu Leu
645 650 655

Leu Phe Leu Phe Ile Ile Ile Phe Ser Leu Leu Gly Met Gln Leu Phe
660 665 670

Gly Gly Lys Phe Asn Phe Asp Glu Thr Gln Thr Lys Arg Ser Thr Phe
675 680 685

Asp Asn Phe Pro Gln Ala Leu Leu Thr Val Phe Gln Ile Leu Thr Gly
690 695 700

Glu Asp Trp Asn Ala Val Met Tyr Asp Gly Ile Met Ala Tyr Gly Gly
705 710 715 720

Pro Ser Ser Ser Gly Met Ile Val Cys Ile Tyr Phe Ile Ile Leu Phe
725 730 735

Ile Cys Gly Asn Tyr Ile Leu Leu Asn Val Phe Leu Ala Ile Ala Val
740 745 750

Asp Asn Leu Ala Asp Ala Glu Ser Leu Asn Thr Ala Gln Lys Glu Glu
755 760 765

Ala Glu Glu Lys Glu Arg Lys Lys Ile Ala Arg Lys Glu Ser Leu Glu
770 775 780

Asn Lys Lys Asn Asn Lys Pro Glu Val Asn Gln Ile Ala Asn Ser Asp
785 790 795 800

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Asn Lys Val Thr Ile Asp Asp Tyr Arg Glu Glu Asp Glu Asp Lys Asp
805 810 815

Pro Tyr Pro Pro Cys Asp Val Pro Val Gly Glu Glu Glu Glu Glu
820 825 830

Glu Glu Asp Glu Pro Glu Val Pro Ala Gly Pro Arg Pro Arg Arg Ile
835 840 845

Ser Glu Leu Asn Met Lys Glu Lys Ile Ala Pro Ile Pro Glu Gly Ser
850 855 860

Ala Phe Phe Ile Leu Ser Lys Thr Asn Pro Ile Arg Val Gly Cys His
865 870 875 880

Lys Leu Ile Asn His His Ile Phe Thr Asn Leu Ile Leu Val Phe Ile
885 890 895

Met Leu Ser Ser Ala Ala Leu Ala Ala Glu Asp Pro Ile Arg Ser His
900 905 910

Ser Phe Arg Asn Thr Ile Leu Gly Tyr Phe Asp Tyr Ala Phe Thr Ala
915 920 925

Ile Phe Thr Val Glu Ile Leu Leu Lys Met Thr Thr Phe Gly Ala Phe
930 935 940

Leu His Lys Gly Ala Phe Cys Arg Asn Tyr Phe Asn Leu Leu Asp Met
945 950 955 960

Leu Val Val Gly Val Ser Leu Val Ser Phe Gly Ile Gln Ser Ser Ala
965 970 975

Ile Ser Val Val Lys Ile Leu Arg Val Leu Arg Val Leu Arg Pro Leu
980 985 990

Arg Ala Ile Asn Arg Ala Lys Gly Leu Lys His Val Val Gln Cys Val
995 1000 1005

Phe Val Ala Ile Arg Thr Ile Gly Asn Ile Met Ile Val Thr Thr
1010 1015 1020

Leu Leu Gln Phe Met Phe Ala Cys Ile Gly Val Gln Leu Phe Lys
1025 1030 1035

Gly Lys Phe Tyr Arg Cys Thr Asp Glu Ala Lys Ser Asn Pro Glu
1040 1045 1050

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Glu Cys Arg Gly Leu Phe Ile Leu Tyr Lys Asp Gly Asp Val Asp
1055 1060 1065

Ser Pro Val Val Arg Glu Arg Ile Trp Gln Asn Ser Asp Phe Asn
1070 1075 1080

Phe Asp Asn Val Leu Ser Ala Met Met Ala Leu Phe Thr Val Ser
1085 1090 1095

Thr Phe Glu Gly Trp Pro Ala Leu Leu Tyr Lys Ala Ile Asp Ser
1100 1105 1110

Asn Gly Glu Asn Ile Gly Pro Ile Tyr Asn His Arg Val Glu Ile
1115 1120 1125

Ser Ile Phe Phe Ile Ile Tyr Ile Ile Ile Val Ala Phe Phe Met
1130 1135 1140

Met Asn Ile Phe Val Gly Phe Val Ile Val Thr Phe Gln Glu Gln
1145 1150 1155

Gly Glu Lys Glu Tyr Lys Asn Cys Glu Leu Asp Lys Asn Gln Arg
1160 1165 1170

Gln Cys Val Glu Tyr Ala Leu Lys Ala Arg Pro Leu Arg Arg Tyr
1175 1180 1185

Ile Pro Lys Asn Pro Tyr Gln Tyr Lys Phe Trp Tyr Val Val Asn
1190 1195 1200

Ser Ser Pro Phe Glu Tyr Met Met Phe Val Leu Ile Met Leu Asn
1205 1210 1215

Thr Leu Cys Leu Ala Met Gln His Tyr Glu Gln Ser Lys Met Phe
1220 1225 1230

Asn Asp Ala Met Asp Ile Leu Asn Met Val Phe Thr Gly Val Phe
1235 1240 1245

Thr Val Glu Met Val Leu Lys Val Ile Ala Phe Lys Pro Lys Gly
1250 1255 1260

Tyr Phe Ser Asp Ala Trp Asn Thr Phe Asp Ser Leu Ile Val Ile
1265 1270 1275

Gly Ser Ile Ile Asp Val Ala Leu Ser Glu Ala Asp Pro Thr Glu
1280 1285 1290

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Ser Glu Asn Val Pro Val Pro Thr Ala Thr Pro Gly Asn Ser Glu
1295 1300 1305

Glu Ser Asn Arg Ile Ser Ile Thr Phe Phe Arg Leu Phe Arg Val
1310 1315 1320

Met Arg Leu Val Lys Leu Leu Ser Arg Gly Glu Gly Ile Arg Thr
1325 1330 1335

Leu Leu Trp Thr Phe Ile Lys Phe Phe Gln Ala Leu Pro Tyr Val
1340 1345 1350

Ala Leu Leu Ile Ala Met Leu Phe Phe Ile Tyr Ala Val Ile Gly
1355 1360 1365

Met Gln Met Phe Gly Lys Val Ala Met Arg Asp Asn Asn Gln Ile
1370 1375 1380

Asn Arg Asn Asn Asn Phe Gln Thr Phe Pro Gln Ala Val Leu Leu
1385 1390 1395

Leu Phe Arg Cys Ala Thr Gly Glu Ala Trp Gln Glu Ile Met Leu
1400 1405 1410

Ala Cys Leu Pro Gly Lys Leu Cys Asp Pro Glu Ser Asp Tyr Asn
1415 1420 1425

Pro Gly Glu Glu His Thr Cys Gly Ser Asn Phe Ala Ile Val Tyr
1430 1435 1440

Phe Ile Ser Phe Tyr Met Leu Cys Ala Phe Leu Ile Ile Asn Leu
1445 1450 1455

Phe Val Ala Val Ile Met Asp Asn Phe Asp Tyr Leu Thr Arg Asp
1460 1465 1470

Trp Ser Ile Leu Gly Pro His His Leu Asp Glu Phe Lys Arg Ile
1475 1480 1485

Trp Ser Glu Tyr Asp Pro Glu Ala Lys Gly Arg Ile Lys His Leu
1490 1495 1500

Asp Val Val Thr Leu Leu Arg Arg Ile Gln Pro Pro Leu Gly Phe
1505 1510 1515

Gly Lys Leu Cys Pro His Arg Val Ala Cys Lys Arg Leu Val Ala
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1520

1525

1530

Met Asn Met Pro Leu Asn Ser Asp Gly Thr Val Met Phe Asn Ala
 1535 1540 1545

Thr Leu Phe Ala Leu Val Arg Thr Ala Leu Lys Ile Lys Thr Glu
 1550 1555 1560

Gly Asn Leu Glu Gln Ala Asn Glu Glu Leu Arg Ala Val Ile Lys
 1565 1570 1575

Lys Ile Trp Lys Lys Thr Ser Met Lys Leu Leu Asp Gln Val Val
 1580 1585 1590

Pro Pro Ala Gly Asp Asp Glu Val Thr Val Gly Lys Phe Tyr Ala
 1595 1600 1605

Thr Phe Leu Ile Gln Asp Tyr Phe Arg Lys Phe Lys Lys Arg Lys
 1610 1615 1620

Glu Gln Gly Leu Val Gly Lys Tyr Pro Ala Lys Asn Thr Thr Ile
 1625 1630 1635

Ala Leu Gln Ala Gly Leu Arg Thr Leu His Asp Ile Gly Pro Glu
 1640 1645 1650

Ile Arg Arg Ala Ile Ser Cys Asp Leu Gln Asp Asp Glu Pro Glu
 1655 1660 1665

Glu Thr Lys Arg Glu Glu Glu Asp Asp Val Phe Lys Arg Asn Gly
 1670 1675 1680

Ala Leu Leu Gly Asn His Val Asn His Val Asn Ser Asp Arg Arg
 1685 1690 1695

Asp Ser Leu Gln Gln Thr Asn Thr Thr His Arg Pro Leu His Val
 1700 1705 1710

Gln Arg Pro Ser Ile Pro Pro Ala Ser Asp Thr Glu Lys Pro Leu
 1715 1720 1725

Phe Pro Pro Ala Gly Asn Ser Val Cys His Asn His His Asn His
 1730 1735 1740

Asn Ser Ile Gly Lys Gln Val Pro Thr Ser Thr Asn Ala Asn Leu
 1745 1750 1755

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Asn	Asn	Ala	Asn	Met	Ser	Lys	Ala	Ala	His	Gly	Lys	Arg	Pro	Ser
1760						1765						1770		
Ile	Gly	Asn	Leu	Glu	His	Val	Ser	Glu	Asn	Gly	His	His	Ser	Ser
1775						1780						1785		
His	Lys	His	Asp	Arg	Glu	Pro	Gln	Arg	Arg	Ser	Ser	Val	Lys	Arg
1790						1795						1800		
Thr	Arg	Tyr	Tyr	Glu	Thr	Tyr	Ile	Arg	Ser	Asp	Ser	Gly	Asp	Glu
1805						1810						1815		
Gln	Leu	Pro	Thr	Ile	Cys	Arg	Glu	Asp	Pro	Glu	Ile	His	Gly	Tyr
1820						1825						1830		
Phe	Arg	Asp	Pro	His	Cys	Leu	Gly	Glu	Gln	Glu	Tyr	Phe	Ser	Ser
1835						1840						1845		
Glu	Glu	Cys	Tyr	Glu	Asp	Asp	Ser	Ser	Pro	Thr	Trp	Ser	Arg	Gln
1850						1855						1860		
Asn	Tyr	Gly	Tyr	Tyr	Ser	Arg	Tyr	Pro	Gly	Arg	Asn	Ile	Asp	Ser
1865						1870						1875		
Glu	Arg	Pro	Arg	Gly	Tyr	His	His	Pro	Gln	Gly	Phe	Leu	Glu	Asp
1880						1885						1890		
Asp	Asp	Ser	Pro	Val	Cys	Tyr	Asp	Ser	Arg	Arg	Ser	Pro	Arg	Arg
1895						1900						1905		
Arg	Leu	Leu	Pro	Pro	Thr	Pro	Ala	Ser	His	Arg	Arg	Ser	Ser	Phe
1910						1915						1920		
Asn	Phe	Glu	Cys	Leu	Arg	Arg	Gln	Ser	Ser	Gln	Glu	Glu	Val	Pro
1925						1930						1935		
Ser	Ser	Pro	Ile	Phe	Pro	His	Arg	Thr	Ala	Leu	Pro	Leu	His	Leu
1940						1945						1950		
Met	Gln	Gln	Gln	Ile	Met	Ala	val	Ala	Gly	Leu	Asp	Ser	Ser	Lys
1955						1960						1965		
Ala	Gln	Lys	Tyr	Ser	Pro	Ser	His	Ser	Thr	Arg	Ser	Trp	Ala	Thr
1970						1975						1980		
Pro	Pro	Ala	Thr	Pro	Pro	Tyr	Arg	Asp	Trp	Thr	Pro	Cys	Tyr	Thr
1985						1990						1995		

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Pro Leu Ile Gln Val Glu Gln Ser Glu Ala Leu Asp Gln Val Asn
2000 2005 2010

Gly Ser Leu Pro Ser Leu His Arg Ser Ser Trp Tyr Thr Asp Glu
2015 2020 2025

Pro Asp Ile Ser Tyr Arg Thr Phe Thr Pro Ala Ser Leu Thr Val
2030 2035 2040

Pro Ser Ser Phe Arg Asn Lys Asn Ser Asp Lys Gln Arg Ser Ala
2045 2050 2055

Asp Ser Leu Val Glu Ala Val Leu Ile Ser Glu Gly Leu Gly Arg
2060 2065 2070

Tyr Ala Arg Asp Pro Lys Phe Val Ser Ala Thr Lys His Glu Ile
2075 2080 2085

Ala Asp Ala Cys Asp Leu Thr Ile Asp Glu Met Glu Ser Ala Ala
2090 2095 2100

Ser Thr Leu Leu Asn Gly Asn Val Arg Pro Arg Ala Asn Gly Asp
2105 2110 2115

Val Gly Pro Leu Ser His Arg Gln Asp Tyr Glu Leu Gln Asp Phe
2120 2125 2130

Gly Pro Gly Tyr Ser Asp Glu Glu Pro Asp Pro Gly Arg Asp Glu
2135 2140 2145

Glu Asp Leu Ala Asp Glu Met Ile Cys Ile Thr Thr Leu
2150 2155 2160

<210> 5

<211> 1966

<212> PRT

<213> Homo sapiens

<400> 5

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Ala Asn Gly Ala Gly Pro Gly Pro Glu Trp Gly Leu Cys Pro Gly Pro
20 25 30

pha4262.ST25.txt

Pro Ala Val Glu Gly Glu Ser Ser Gly Ala Ser Gly Leu Gly Thr Pro
35 40 45

Lys Arg Arg Asn Gln His Ser Lys His Thr Val Ala Val Ala Ser
50 55 60

Ala Gln Arg Ser Pro Arg Ala Leu Phe Cys Leu Thr Leu Ala Asn Pro
65 70 75 80

Leu Arg Arg Ser Cys Ile Ser Ile Val Glu Trp Lys Pro Phe Asp Ile
85 90 95

Leu Ile Leu Leu Thr Ile Phe Ala Asn Cys Val Ala Leu Gly Val Tyr
100 105 110

Ile Pro Phe Pro Glu Asp Asp Ser Asn Thr Ala Asn His Asn Leu Glu
115 120 125

Gln Val Glu Tyr Val Phe Leu Val Ile Phe Thr Val Glu Thr Val Leu
130 135 140

Lys Ile Val Ala Tyr Gly Leu Val Leu His Pro Ser Ala Tyr Ile Arg
145 150 155 160

Asn Gly Trp Asn Leu Leu Asp Phe Ile Ile Val Val Val Gly Leu Phe
165 170 175

Ser Val Leu Leu Glu Gln Gly Pro Gly Arg Pro Gly Asp Ala Pro His
180 185 190

Thr Gly Gly Lys Pro Gly Gly Phe Asp Val Lys Ala Leu Arg Ala Phe
195 200 205

Arg Val Leu Arg Pro Leu Arg Leu Val Ser Gly Val Pro Ser Leu His
210 215 220

Ile Val Leu Asn Ser Ile Met Lys Ala Leu Val Pro Leu Leu His Ile
225 230 235 240

Ala Leu Leu Val Leu Phe Val Ile Ile Ile Tyr Ala Ile Ile Gly Leu
245 250 255

Glu Leu Phe Leu Gly Arg Met His Lys Thr Cys Tyr Phe Leu Gly Ser
260 265 270

Asp Met Glu Ala Glu Glu Asp Pro Ser Pro Cys Ala Ser Ser Gly Ser
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275

280

285

Gly Arg Ala Cys Thr Leu Asn Gln Thr Glu Cys Arg Gly Arg Trp Pro
 290 295 300

Gly Pro Asn Gly Gly Ile Thr Asn Phe Asp Asn Phe Phe Phe Ala Met
 305 310 315 320

Leu Thr Val Phe Gln Cys Val Thr Met Glu Gly Trp Thr Asp Val Leu
 325 330 335

Tyr Trp Met Gln Asp Ala Met Gly Tyr Glu Leu Pro Trp Val Tyr Phe
 340 345 350

Val Ser Leu Val Ile Phe Gly Ser Phe Phe Val Leu Asn Leu Val Leu
 355 360 365

Gly Val Leu Ser Gly Glu Phe Ser Lys Glu Arg Glu Lys Ala Lys Ala
 370 375 380

Arg Gly Asp Phe Gln Lys Gln Arg Glu Lys Gln Gln Met Glu Glu Asp
 385 390 395 400

Leu Arg Gly Tyr Leu Asp Trp Ile Thr Gln Ala Glu Glu Leu Asp Met
 405 410 415

Glu Asp Pro Ser Ala Asp Asp Asn Leu Gly Pro Gln Leu Ala Glu Leu
 420 425 430

Thr Asn Arg Arg Arg Gly Arg Leu Arg Trp Phe Ser His Ser Thr Arg
 435 440 445

Ser Thr His Ser Thr Ser Ser His Ala Ser Leu Pro Ala Ser Asp Thr
 450 455 460

Gly Ser Met Thr Glu Thr Gln Gly Asp Glu Asp Glu Glu Glu Gly Ala
 465 470 475 480

Leu Ala Ser Cys Thr Arg Cys Leu Asn Lys Ile Met Lys Thr Arg Val
 485 490 495

Cys Arg Arg Leu Arg Arg Ala Asn Arg Val Leu Arg Ala Arg Cys Arg
 500 505 510

Arg Ala Val Lys Ser Asn Ala Cys Tyr Trp Ala Val Leu Leu Leu Val
 515 520 525

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Phe Leu Asn Thr Leu Thr Ile Ala Ser Glu His His Gly Gln Pro Val
530 535 540

Trp Leu Thr Gln Ile Gln Glu Tyr Ala Asn Lys Val Leu Leu Cys Leu
545 550 555 560

Phe Thr Val Glu Met Leu Leu Lys Leu Tyr Gly Leu Gly Pro Ser Ala
565 570 575

Tyr Val Ser Ser Phe Phe Asn Arg Phe Asp Cys Phe Val Val Cys Gly
580 585 590

Gly Ile Leu Glu Thr Thr Leu Val Glu Val Gly Ala Met Gln Pro Leu
595 600 605

Gly Ile Ser Val Leu Arg Cys Val Arg Leu Leu Arg Ile Phe Lys Val
610 615 620

Thr Arg His Trp Ala Ser Leu Ser Asn Leu Val Ala Ser Leu Leu Asn
625 630 635 640

Ser Met Lys Ser Ile Ala Ser Leu Leu Leu Leu Phe Leu Phe Ile
645 650 655

Ile Ile Phe Ser Leu Leu Gly Met Gln Leu Phe Gly Gly Lys Phe Asn
660 665 670

Phe Asp Gln Thr His Thr Lys Arg Ser Thr Phe Asp Thr Phe Pro Gln
675 680 685

Ala Leu Leu Thr Val Phe Gln Ile Leu Thr Gly Glu Asp Trp Asn Val
690 695 700

Val Met Tyr Asp Gly Ile Met Ala Tyr Gly Gly Pro Phe Phe Pro Gly
705 710 715 720

Met Leu Val Cys Ile Tyr Phe Ile Ile Leu Phe Ile Cys Gly Asn Tyr
725 730 735

Ile Leu Leu Asn Val Phe Leu Ala Ile Ala Val Asp Asn Leu Ala Ser
740 745 750

Gly Asp Ala Gly Thr Ala Lys Asp Lys Gly Gly Glu Lys Ser Asn Glu
755 760 765

Lys Asp Leu Pro Gln Glu Asn Glu Gly Leu Val Pro Gly Val Glu Lys
770 775 780

pha4262.ST25.txt

Glu Glu Glu Glu Gly Ala Arg Arg Glu Gly Ala Asp Met Glu Glu Glu
785 790 795 800

Glu Gly Ala
805 810 815

Gly Gly Val Glu Leu Leu Gln Glu Val Val Pro Lys Glu Lys Val Val
820 825 830

Pro Ile Pro Glu Gly Ser Ala Phe Phe Cys Leu Ser Gln Thr Asn Pro
835 840 845

Leu Arg Lys Gly Cys His Thr Leu Ile His His His Val Phe Thr Asn
850 855 860

Leu Ile Leu Val Phe Ile Ile Leu Ser Ser Val Ser Leu Ala Ala Glu
865 870 875 880

Asp Pro Ile Arg Ala His Ser Phe Arg Asn His Ile Leu Gly Tyr Phe
885 890 895

Asp Tyr Ala Phe Thr Ser Ile Phe Thr Val Glu Ile Leu Leu Lys Met
900 905 910

Thr Val Phe Gly Ala Phe Leu His Arg Gly Ser Phe Cys Arg Ser Trp
915 920 925

Phe Asn Met Leu Asp Leu Leu Val Val Ser Val Ser Leu Ile Ser Phe
930 935 940

Gly Ile His Ser Ser Ala Ile Ser Val Val Lys Ile Leu Arg Val Leu
945 950 955 960

Arg Val Leu Arg Pro Leu Arg Ala Ile Asn Arg Ala Lys Gly Leu Lys
965 970 975

His Val Val Gln Cys Val Phe Val Ala Ile Arg Thr Ile Gly Asn Ile
980 985 990

Met Ile Val Thr Thr Leu Leu Gln Phe Met Phe Ala Cys Ile Gly Val
995 1000 1005

Gln Leu Phe Lys Gly Lys Phe Tyr Thr Cys Thr Asp Glu Ala Lys
1010 1015 1020

His Thr Pro Gln Glu Cys Lys Gly Ser Phe Leu Val Tyr Pro Asp
1025 1030 1035

pha4262.ST25.txt

Gly Asp Val Ser Arg Pro Leu Val Arg Glu Arg Leu Trp Val Asn
1040 1045 1050

Ser Asp Phe Asn Phe Asp Asn Val Leu Ser Ala Met Met Ala Leu
1055 1060 1065

Phe Thr Val Ser Thr Phe Glu Gly Trp Pro Ala Leu Leu Tyr Lys
1070 1075 1080

Ala Ile Asp Ala Tyr Ala Glu Asp His Gly Pro Ile Tyr Asn Tyr
1085 1090 1095

Arg Val Glu Ile Ser Val Phe Phe Ile Val Tyr Ile Ile Ile Ile
1100 1105 1110

Ala Phe Phe Met Met Asn Ile Phe Val Gly Phe Val Ile Ile Thr
1115 1120 1125

Phe Arg Ala Gln Gly Glu Gln Glu Tyr Gln Asn Cys Glu Leu Asp
1130 1135 1140

Lys Asn Gln Arg Gln Cys Val Glu Tyr Ala Leu Lys Ala Gln Pro
1145 1150 1155

Leu Arg Arg Tyr Ile Pro Lys Asn Pro His Gln Tyr Arg Val Trp
1160 1165 1170

Ala Thr Val Asn Ser Ala Ala Phe Glu Tyr Leu Met Phe Leu Leu
1175 1180 1185

Ile Leu Leu Asn Thr Val Ala Leu Ala Met Gln His Tyr Glu Gln
1190 1195 1200

Thr Ala Pro Phe Asn Tyr Ala Met Asp Ile Leu Asn Met Val Phe
1205 1210 1215

Thr Gly Leu Phe Thr Ile Glu Met Val Leu Lys Ile Ile Ala Phe
1220 1225 1230

Lys Pro Lys His Tyr Phe Thr Asp Ala Trp Asn Thr Phe Asp Ala
1235 1240 1245

Leu Ile Val Val Gly Ser Ile Val Asp Ile Ala Val Thr Glu Val
1250 1255 1260

Asn Asn Gly Gly His Leu Gly Glu Ser Ser Glu Asp Ser Ser Arg
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1265	1270	1275
Ile Ser Ile Thr Phe Phe Arg	Leu Phe Arg Val	Met Arg Leu Val
1280	1285	1290
Lys Leu Leu Ser Lys Gly Glu	Gly Ile Arg Thr	Leu Leu Trp Thr
1295	1300	1305
Phe Ile Lys Ser Phe Gln Ala	Leu Pro Tyr Val	Ala Leu Leu Ile
1310	1315	1320
Ala Met Ile Phe Phe Ile Tyr	Ala Val Ile Gly	Met Gln Met Phe
1325	1330	1335
Gly Lys Val Ala Leu Gln Asp	Gly Thr Gln Ile Asn	Arg Asn Asn
1340	1345	1350
Asn Phe Gln Thr Phe Pro Gln	Ala Val Leu Leu	Leu Phe Arg Cys
1355	1360	1365
Ala Thr Gly Glu Ala Trp Gln	Glu Ile Met Leu	Ala Ser Leu Pro
1370	1375	1380
Gly Asn Arg Cys Asp Pro Glu	Ser Asp Phe Gly	Pro Gly Glu Glu
1385	1390	1395
Phe Thr Cys Gly Ser Asn Phe	Ala Ile Ala Tyr	Phe Ile Ser Phe
1400	1405	1410
Phe Met Leu Cys Ala Phe Leu	Ile Ile Asn Leu	Phe Val Ala Val
1415	1420	1425
Ile Met Asp Asn Phe Asp Tyr	Leu Thr Arg Asp	Trp Ser Ile Leu
1430	1435	1440
Gly Pro His His Leu Asp Glu	Phe Lys Arg Ile	Trp Ser Glu Tyr
1445	1450	1455
Asp Pro Gly Ala Lys Gly Arg	Ile Lys His Leu	Asp Val Val Ala
1460	1465	1470
Leu Leu Arg Arg Ile Gln Pro	Pro Leu Gly Phe	Gly Lys Leu Cys
1475	1480	1485
Pro His Arg Val Ala Cys Lys	Arg Leu Val	Ala Met Asn Met Pro
1490	1495	1500

pha4262.ST25.txt

Leu Asn Ser Asp Gly Thr Val Thr Phe Asn Ala Thr Leu Phe Ala
1505 1510 1515

Leu Val Arg Thr Ser Leu Lys Ile Lys Thr Glu Gly Asn Leu Glu
1520 1525 1530

Gln Ala Asn Gln Glu Leu Arg Ile Val Ile Lys Lys Ile Trp Lys
1535 1540 1545

Arg Met Lys Gln Lys Leu Leu Asp Glu Val Ile Pro Pro Pro Asp
1550 1555 1560

Glu Glu Glu Val Thr Val Gly Lys Phe Tyr Ala Thr Phe Leu Ile
1565 1570 1575

Gln Asp Tyr Phe Arg Lys Phe Arg Arg Arg Lys Glu Lys Gly Leu
1580 1585 1590

Leu Gly Asn Asp Ala Ala Pro Ser Thr Ser Ser Ala Leu Gln Ala
1595 1600 1605

Gly Leu Arg Ser Leu Gln Asp Leu Gly Pro Glu Met Arg Gln Ala
1610 1615 1620

Leu Thr Cys Asp Thr Glu Glu Glu Glu Glu Gly Gln Glu Gly
1625 1630 1635

Val Glu Glu Glu Asp Glu Lys Asp Leu Glu Thr Asn Lys Ala Thr
1640 1645 1650

Met Val Ser Gln Pro Ser Ala Arg Arg Gly Ser Gly Ile Ser Val
1655 1660 1665

Ser Leu Pro Val Gly Asp Arg Leu Pro Asp Ser Leu Ser Phe Gly
1670 1675 1680

Pro Ser Asp Asp Asp Arg Gly Thr Pro Thr Ser Ser Gln Pro Ser
1685 1690 1695

Val Pro Gln Ala Gly Ser Asn Thr His Arg Arg Gly Ser Gly Ala
1700 1705 1710

Leu Ile Phe Thr Ile Pro Glu Glu Gly Asn Ser Gln Pro Lys Gly
1715 1720 1725

Thr Lys Gly Gln Asn Lys Gln Asp Glu Asp Glu Glu Val Pro Asp
1730 1735 1740

pha4262.ST25.txt

Arg Leu Ser Tyr Leu Asp Glu Gln Ala Gly Thr Pro Pro Cys Ser
1745 1750 1755

Val Leu Leu Pro Pro His Arg Ala Gln Arg Tyr Met Asp Gly His
1760 1765 1770

Leu Val Pro Arg Arg Arg Leu Leu Pro Pro Thr Pro Ala Gly Arg
1775 1780 1785

Lys Pro Ser Phe Thr Ile Gln Cys Leu Gln Arg Gln Gly Ser Cys
1790 1795 1800

Glu Asp Leu Pro Ile Pro Gly Thr Tyr His Arg Gly Arg Asn Ser
1805 1810 1815

Gly Pro Asn Arg Ala Gln Gly Ser Trp Ala Thr Pro Pro Gln Arg
1820 1825 1830

Gly Arg Leu Leu Tyr Ala Pro Leu Leu Leu Val Glu Glu Gly Ala
1835 1840 1845

Ala Gly Glu Gly Tyr Leu Gly Arg Ser Ser Gly Pro Leu Arg Thr
1850 1855 1860

Phe Thr Cys Leu His Val Pro Gly Thr His Ser Asp Pro Ser His
1865 1870 1875

Gly Lys Arg Gly Ser Ala Asp Ser Leu Val Glu Ala Val Leu Ile
1880 1885 1890

Ser Glu Gly Leu Gly Leu Phe Ala Arg Asp Pro Arg Phe Val Ala
1895 1900 1905

Leu Ala Lys Gln Glu Ile Ala Asp Ala Cys Arg Leu Thr Leu Asp
1910 1915 1920

Glu Met Asp Asn Ala Ala Ser Asp Leu Leu Ala Gln Gly Thr Ser
1925 1930 1935

Ser Leu Tyr Ser Asp Glu Glu Ser Ile Leu Ser Arg Phe Asp Glu
1940 1945 1950

Glu Asp Leu Gly Asp Glu Met Ala Cys Val His Ala Leu
1955 1960 1965

pha4262.ST25.txt

<211> 1966

<212> PRT

<213> Homo sapiens

<400> 6

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Pro Ala Val Glu Gly Glu Ser Ser Gly Ala Ser Gly Leu Gly Thr Pro
35 40 45

Lys Arg Arg Asn Gln His Ser Lys His Lys Thr Val Ala Val Ala Ser
50 55 60

Ala Gln Arg Ser Pro Arg Ala Leu Phe Cys Leu Thr Leu Ala Asn Pro
65 70 75 80

Leu Arg Arg Ser Cys Ile Ser Ile Val Glu Trp Lys Pro Phe Asp Ile
85 90 95

Leu Ile Leu Leu Thr Ile Phe Ala Asn Cys Val Ala Leu Gly Val Tyr
100 105 110

Ile Pro Phe Pro Glu Asp Asp Ser Asn Thr Ala Asn His Asn Leu Glu
115 120 125

Gln Val Glu Tyr Val Phe Leu Val Ile Phe Thr Val Glu Thr Val Leu
130 135 140

Lys Ile Val Ala Tyr Gly Leu Val Leu His Pro Ser Ala Tyr Ile Arg
145 150 155 160

Asn Gly Trp Asn Leu Leu Asp Phe Ile Ile Val Val Val Gly Leu Phe
165 170 175

Ser Val Leu Leu Glu Gln Gly Pro Gly Arg Pro Gly Asp Ala Pro His
180 185 190

Thr Gly Gly Lys Pro Gly Gly Phe Asp Val Lys Ala Leu Arg Ala Phe
195 200 205

Arg Val Leu Arg Pro Leu Arg Leu Val Ser Gly Val Pro Ser Leu His

pha4262.ST25.txt

210

215

220

Ile Val Leu Asn Ser Ile Met Lys Ala Leu Val Pro Leu Leu His Ile
225 230 235 240

Ala Leu Leu Val Leu Phe Val Ile Ile Ile Tyr Ala Ile Ile Gly Leu
245 250 255

Glu Leu Phe Leu Gly Arg Met His Lys Thr Cys Tyr Phe Leu Gly Ser
260 265 270

Asp Met Glu Ala Glu Glu Asp Pro Ser Pro Cys Ala Ser Ser Gly Ser
275 280 285

Gly Arg Ala Cys Thr Leu Asn Gln Thr Glu Cys Arg Gly Arg Trp Pro
290 295 300

Gly Pro Asn Gly Gly Ile Thr Asn Phe Asp Asn Phe Phe Phe Ala Met
305 310 315 320

Leu Thr Val Phe Gln Cys Val Thr Met Glu Gly Trp Thr Asp Val Leu
325 330 335

Tyr Trp Met Gln Asp Ala Met Gly Tyr Glu Leu Pro Trp Val Tyr Phe
340 345 350

Val Ser Leu Val Ile Phe Gly Ser Phe Phe Val Leu Asn Leu Val Leu
355 360 365

Gly Val Leu Ser Gly Glu Phe Ser Lys Glu Arg Glu Lys Ala Lys Ala
370 375 380

Arg Gly Asp Phe Gln Lys Gln Arg Glu Lys Gln Gln Met Glu Glu Asp
385 390 395 400

Leu Arg Gly Tyr Leu Asp Trp Ile Thr Gln Ala Glu Glu Leu Asp Met
405 410 415

Glu Asp Pro Ser Ala Asp Asp Asn Leu Gly Pro Gln Leu Ala Glu Leu
420 425 430

Thr Asn Arg Arg Arg Gly Arg Leu Arg Trp Phe Ser His Ser Thr Arg
435 440 445

Ser Thr His Ser Thr Ser Ser His Ala Ser Leu Pro Ala Ser Asp Thr
455 460

pha4262.ST25.txt

Gly Ser Met Thr Glu Thr Gln Gly Asp Glu Asp Glu Glu Gly Ala
465 470 475 480

Leu Ala Ser Cys Thr Arg Cys Leu Asn Lys Ile Met Lys Thr Arg Val
485 490 495

Cys Arg Arg Leu Arg Arg Ala Asn Arg Val Leu Arg Ala Arg Cys Arg
500 505 510

Arg Ala Val Lys Ser Asn Ala Cys Tyr Trp Ala Val Leu Leu Leu Val
515 520 525

Phe Leu Asn Thr Leu Thr Ile Ala Ser Glu His His Gly Gln Pro Val
530 535 540

Trp Leu Thr Gln Ile Gln Glu Tyr Ala Asn Lys Val Leu Leu Cys Leu
545 550 555 560

Phe Thr Val Glu Met Leu Leu Lys Leu Tyr Gly Leu Gly Pro Ser Ala
565 570 575

Tyr Val Ser Ser Phe Phe Asn Arg Phe Asp Cys Phe Val Val Cys Gly
580 585 590

Gly Ile Leu Glu Thr Thr Leu Val Glu Val Gly Ala Met Gln Pro Leu
595 600 605

Gly Ile Ser Val Leu Arg Cys Val Arg Leu Leu Arg Ile Phe Lys Val
610 615 620

Thr Arg His Trp Ala Ser Leu Ser Asn Leu Val Ala Ser Leu Leu Asn
625 630 635 640

Ser Met Lys Ser Ile Ala Ser Leu Leu Leu Leu Phe Leu Phe Ile
645 650 655

Ile Ile Phe Ser Leu Leu Gly Met Gln Leu Phe Gly Gly Lys Phe Asn
660 665 670

Phe Asp Gln Thr His Thr Lys Arg Ser Thr Phe Asp Thr Phe Pro Gln
675 680 685

Ala Leu Leu Thr Val Phe Gln Ile Leu Thr Gly Glu Asp Trp Asn Val
690 695 700

Val Met Tyr Asp Gly Ile Met Ala Tyr Gly Gly Pro Phe Phe Pro Gly
705 710 715 720

pha4262.ST25.txt

Met Leu Val Cys Ile Tyr Phe Ile Ile Leu Phe Ile Cys Gly Asn Tyr
725 730 735

Ile Leu Leu Asn Val Phe Leu Ala Ile Ala Val Asp Asn Leu Ala Ser
740 745 750

Gly Asp Ala Gly Thr Ala Lys Asp Lys Gly Gly Glu Lys Ser Asn Glu
755 760 765

Lys Asp Leu Pro Gln Glu Asn Glu Gly Leu Val Pro Gly Val Glu Lys
770 775 780

Glu Glu Glu Glu Gly Ala Arg Arg Glu Gly Ala Asp Met Glu Glu Glu
785 790 795 800

Glu Gly Ala
805 810 815

Gly Gly Val Glu Leu Leu Gln Glu Val Val Pro Lys Glu Lys Val Val
820 825 830

Pro Ile Pro Glu Gly Ser Ala Phe Phe Cys Leu Ser Gln Thr Asn Pro
835 840 845

Leu Arg Lys Gly Cys His Thr Leu Ile His His His Val Phe Thr Asn
850 855 860

Leu Ile Leu Val Phe Ile Ile Leu Ser Ser Val Ser Leu Ala Ala Glu
865 870 875 880

Asp Pro Ile Arg Ala His Ser Phe Arg Asn His Ile Leu Gly Tyr Phe
885 890 895

Asp Tyr Ala Phe Thr Ser Ile Phe Thr Val Glu Ile Leu Leu Lys Met
900 905 910

Thr Val Phe Gly Ala Phe Leu His Arg Gly Ser Phe Cys Arg Ser Trp
915 920 925

Phe Asn Met Leu Asp Leu Leu Val Val Ser Val Ser Leu Ile Ser Phe
930 935 940

Gly Ile His Ser Ser Ala Ile Ser Val Val Lys Ile Leu Arg Val Leu
945 950 955 960

Arg Val Leu Arg Pro Leu Arg Ala Ile Asn Arg Ala Lys Gly Leu Lys
965 970 975

pha4262.ST25.txt

His Val Val Gln Cys Val Phe Val Ala Ile Arg Thr Ile Gly Asn Ile
980 985 990

Met Ile Val Thr Thr Leu Leu Gln Phe Met Phe Ala Cys Ile Gly Val
995 1000 1005

Gln Leu Phe Lys Gly Lys Phe Tyr Thr Cys Thr Asp Glu Ala Lys
1010 1015 1020

His Thr Pro Gln Glu Cys Lys Gly Ser Phe Leu Val Tyr Pro Asp
1025 1030 1035

Gly Asp Val Ser Arg Pro Leu Val Arg Glu Arg Leu Trp Val Asn
1040 1045 1050

Ser Asp Phe Asn Phe Asp Asn Val Leu Ser Ala Met Met Ala Leu
1055 1060 1065

Phe Thr Val Ser Thr Phe Glu Gly Trp Pro Ala Leu Leu Tyr Lys
1070 1075 1080

Ala Ile Asp Ala Tyr Ala Glu Asp His Gly Pro Ile Tyr Asn Tyr
1085 1090 1095

Arg Val Glu Ile Ser Val Phe Phe Ile Val Tyr Ile Ile Ile Ile
1100 1105 1110

Ala Phe Phe Met Met Asn Ile Phe Val Gly Phe Val Ile Ile Thr
1115 1120 1125

Phe Arg Ala Gln Gly Glu Gln Glu Tyr Gln Asn Cys Glu Leu Asp
1130 1135 1140

Lys Asn Gln Arg Gln Cys Val Glu Tyr Ala Leu Lys Ala Gln Pro
1145 1150 1155

Leu Arg Arg Tyr Ile Pro Lys Asn Pro His Gln Tyr Arg Val Trp
1160 1165 1170

Ala Thr Val Asn Ser Ala Ala Phe Glu Tyr Leu Met Phe Leu Leu
1175 1180 1185

Ile Leu Leu Asn Thr Val Ala Leu Ala Met Gln His Tyr Glu Gln
1190 1195 1200

Thr Ala Pro Phe Asn Tyr Ala Met Asp Ile Leu Asn Met Val Phe
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1205 1210 1215

Thr Gly Leu Phe Thr Ile Glu Met Val Leu Lys Ile Ile Ala Phe
1220 1225 1230

Lys Pro Lys His Tyr Phe Thr Asp Ala Trp Asn Thr Phe Asp Ala
1235 1240 1245

Leu Ile Val Val Gly Ser Ile Val Asp Ile Ala Val Thr Glu Val
1250 1255 1260

Asn Asn Gly Gly His Leu Gly Glu Ser Ser Glu Asp Ser Ser Arg
1265 1270 1275

Ile Ser Ile Thr Phe Phe Arg Leu Phe Arg Val Met Arg Leu Val
1280 1285 1290

Lys Leu Leu Ser Lys Gly Glu Gly Ile Arg Thr Leu Leu Trp Thr
1295 1300 1305

Phe Ile Lys Ser Phe Gln Ala Leu Pro Tyr Val Ala Leu Leu Ile
1310 1315 1320

Ala Met Ile Phe Phe Ile Tyr Ala Val Ile Gly Met Gln Met Phe
1325 1330 1335

Gly Lys Val Ala Leu Gln Asp Gly Thr Gln Ile Asn Arg Asn Asn
1340 1345 1350

Asn Phe Gln Thr Phe Pro Gln Ala Val Leu Leu Leu Phe Arg Cys
1355 1360 1365

Ala Thr Gly Glu Ala Trp Gln Glu Ile Met Leu Ala Ser Leu Pro
1370 1375 1380

Gly Asn Arg Cys Asp Pro Glu Ser Asp Phe Gly Pro Gly Glu Glu
1385 1390 1395

Phe Thr Cys Gly Ser Asn Phe Ala Ile Ala Tyr Phe Ile Ser Phe
1400 1405 1410

Phe Met Leu Cys Ala Phe Leu Ile Ile Asn Leu Phe Val Ala Val
1415 1420 1425

Ile Met Asp Asn Phe Asp Tyr Leu Thr Arg Asp Trp Ser Ile Leu
1430 1435 1440

pha4262.ST25.txt

Gly Pro His His Leu Asp Glu Phe Lys Arg Ile Trp Ser Glu Tyr
1445 1450 1455

Asp Pro Gly Ala Lys Gly Arg Ile Lys His Leu Asp Val Val Ala
1460 1465 1470

Leu Leu Arg Arg Ile Gln Pro Pro Leu Gly Phe Gly Lys Leu Cys
1475 1480 1485

Pro His Arg Val Ala Cys Lys Arg Leu Val Ala Met Asn Met Pro
1490 1495 1500

Leu Asn Ser Asp Gly Thr Val Thr Phe Asn Ala Thr Leu Phe Ala
1505 1510 1515

Leu Val Arg Thr Ser Leu Lys Ile Lys Thr Glu Gly Asn Leu Glu
1520 1525 1530

Gln Ala Asn Gln Glu Leu Arg Ile Val Ile Lys Lys Ile Trp Lys
1535 1540 1545

Arg Met Lys Gln Lys Leu Leu Asp Glu Val Ile Pro Pro Pro Asp
1550 1555 1560

Glu Glu Glu Val Thr Val Gly Lys Phe Tyr Ala Thr Phe Leu Ile
1565 1570 1575

Gln Asp Tyr Phe Arg Lys Phe Arg Arg Arg Lys Glu Lys Gly Leu
1580 1585 1590

Leu Gly Asn Asp Ala Ala Pro Ser Thr Ser Ser Ala Leu Gln Ala
1595 1600 1605

Gly Leu Arg Ser Leu Gln Asp Leu Gly Pro Glu Met Arg Gln Ala
1610 1615 1620

Leu Thr Cys Asp Thr Glu Glu Glu Glu Glu Gly Gln Glu Gly
1625 1630 1635

Val Glu Glu Glu Asp Glu Lys Asp Leu Glu Thr Asn Lys Ala Thr
1640 1645 1650

Met Val Ser Gln Pro Ser Ala Arg Arg Gly Ser Gly Ile Ser Val
1655 1660 1665

Ser Leu Pro Val Gly Asp Arg Leu Pro Asp Ser Leu Ser Phe Gly
1670 1675 1680

pha4262.ST25.txt

Pro Ser Asp Asp Asp Arg Gly Thr Pro Thr Ser Ser Gln Pro Ser
1685 1690 1695

Val Pro Gln Ala Gly Ser Asn Thr His Arg Arg Gly Ser Gly Ala
1700 1705 1710

Leu Ile Phe Thr Ile Pro Glu Glu Gly Asn Ser Gln Pro Lys Gly
1715 1720 1725

Thr Lys Gly Gln Asn Lys Gln Asp Glu Asp Glu Glu Val Pro Asp
1730 1735 1740

Arg Leu Ser Tyr Leu Asp Glu Gln Ala Gly Thr Pro Pro Cys Ser
1745 1750 1755

Val Leu Leu Pro Pro His Arg Ala Gln Arg Tyr Met Asp Gly His
1760 1765 1770

Leu Val Pro Arg Arg Arg Leu Leu Pro Pro Thr Pro Ala Gly Arg
1775 1780 1785

Lys Pro Ser Phe Thr Ile Gln Cys Leu Gln Arg Gln Gly Ser Cys
1790 1795 1800

Glu Asp Leu Pro Ile Pro Gly Thr Tyr His Arg Gly Arg Asn Ser
1805 1810 1815

Gly Pro Asn Arg Ala Gln Gly Ser Trp Ala Thr Pro Pro Gln Arg
1820 1825 1830

Gly Arg Leu Leu Tyr Ala Pro Leu Leu Leu Val Glu Glu Gly Ala
1835 1840 1845

Ala Gly Glu Gly Tyr Leu Gly Arg Ser Ser Gly Pro Leu Arg Thr
1850 1855 1860

Phe Thr Cys Leu His Val Pro Gly Thr His Ser Asp Pro Ser His
1865 1870 1875

Gly Lys Arg Gly Ser Ala Asp Ser Leu Val Glu Ala Val Leu Ile
1880 1885 1890

Ser Glu Gly Leu Gly Leu Phe Ala Arg Asp Pro Arg Phe Val Ala
1895 1900 1905

Leu Ala Lys Gln Glu Ile Ala Asp Ala Cys Arg Leu Thr Leu Asp
1910 1915 1920

pha4262.ST25.txt

Glu Met Asp Asn Ala Ala Ser Asp Leu Leu Ala Gln Gly Thr Ser
1925 1930 1935

Ser Leu Tyr Ser Asp Glu Glu Ser Ile Leu Ser Arg Phe Asp Glu
1940 1945 1950

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1955 1960 1965

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<211> 1977

<212> PRT

<213> Homo sapiens

<400> 7

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Pro Ala Val Glu Gly Glu Ser Ser Gly Ala Ser Gly Leu Gly Thr Pro
35 40 45

Lys Arg Arg Asn Gln His Ser Lys His Thr Val Ala Val Ala Ser
50 55 60

Ala Gln Arg Ser Pro Arg Ala Leu Phe Cys Leu Thr Leu Ala Asn Pro
65 70 75 80

Leu Arg Arg Ser Cys Ile Ser Ile Val Glu Trp Lys Pro Phe Asp Ile
85 90 95

Leu Ile Leu Leu Thr Ile Phe Ala Asn Cys Val Ala Leu Gly Val Tyr
100 105 110

Ile Pro Phe Pro Glu Asp Asp Ser Asn Thr Ala Asn His Asn Leu Glu
115 120 125

Gln Val Glu Tyr Val Phe Leu Val Ile Phe Thr Val Glu Thr Val Leu
130 135 140

Lys Ile Val Ala Tyr Gly Leu Val Leu His Pro Ser Ala Tyr Ile Arg
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145

150

155

160

Asn Gly Trp Asn Leu Leu Asp Phe Ile Ile Val Val Val Gly Leu Phe
165 170 175

Ser Val Leu Leu Glu Gln Gly Pro Gly Arg Pro Gly Asp Ala Pro His
180 185 190

Thr Gly Gly Lys Pro Gly Gly Phe Asp Val Lys Ala Leu Arg Ala Phe
195 200 205

Arg Val Leu Arg Pro Leu Arg Leu Val Ser Gly Val Pro Ser Leu His
210 215 220

Ile Val Leu Asn Ser Ile Met Lys Ala Leu Val Pro Leu Leu His Ile
225 230 235 240

Ala Leu Leu Val Leu Phe Val Ile Ile Ile Tyr Ala Ile Ile Gly Leu
245 250 255

Glu Leu Phe Leu Gly Arg Met His Lys Thr Cys Tyr Phe Leu Gly Ser
260 265 270

Asp Met Glu Ala Glu Glu Asp Pro Ser Pro Cys Ala Ser Ser Gly Ser
275 280 285

Gly Arg Ala Cys Thr Leu Asn Gln Thr Glu Cys Arg Gly Arg Trp Pro
290 295 300

Gly Pro Asn Gly Gly Ile Thr Asn Phe Asp Asn Phe Phe Phe Ala Met
305 310 315 320

Leu Thr Val Phe Gln Cys Val Thr Met Glu Gly Trp Thr Asp Val Leu
325 330 335

Tyr Trp Met Gln Asp Ala Met Gly Tyr Glu Leu Pro Trp Val Tyr Phe
340 345 350

Val Ser Leu Val Ile Phe Gly Ser Phe Phe Val Leu Asn Leu Val Leu
355 360 365

Gly Val Leu Ser Gly Glu Phe Ser Lys Glu Arg Glu Lys Ala Lys Ala
370 375 380

Arg Gly Asp Phe Gln Lys Gln Arg Glu Lys Gln Gln Met Glu Glu Asp
385 390 395 400

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Leu Arg Gly Tyr Leu Asp Trp Ile Thr Gln Ala Glu Glu Leu Asp Met
405 410 415

Glu Asp Pro Ser Ala Asp Asp Asn Leu Gly Ser Met Ala Glu Glu Gly
420 425 430

Arg Ala Gly His Arg Pro Gln Leu Ala Glu Leu Thr Asn Arg Arg Arg
435 440 445

Gly Arg Leu Arg Trp Phe Ser His Ser Thr Arg Ser Thr His Ser Thr
450 455 460

Ser Ser His Ala Ser Leu Pro Ala Ser Asp Thr Gly Ser Met Thr Glu
465 470 475 480

Thr Gln Gly Asp Glu Asp Glu Glu Gly Ala Leu Ala Ser Cys Thr
485 490 495

Arg Cys Leu Asn Lys Ile Met Lys Thr Arg Val Cys Arg Arg Leu Arg
500 505 510

Arg Ala Asn Arg Val Leu Arg Ala Arg Cys Arg Arg Ala Val Lys Ser
515 520 525

Asn Ala Cys Tyr Trp Ala Val Leu Leu Leu Val Phe Leu Asn Thr Leu
530 535 540

Thr Ile Ala Ser Glu His His Gly Gln Pro Val Trp Leu Thr Gln Ile
545 550 555 560

Gln Glu Tyr Ala Asn Lys Val Leu Leu Cys Leu Phe Thr Val Glu Met
565 570 575

Leu Leu Lys Leu Tyr Gly Leu Gly Pro Ser Ala Tyr Val Ser Ser Phe
580 585 590

Phe Asn Arg Phe Asp Cys Phe Val Val Cys Gly Gly Ile Leu Glu Thr
595 600 605

Thr Leu Val Glu Val Gly Ala Met Gln Pro Leu Gly Ile Ser Val Leu
610 615 620

Arg Cys Val Arg Leu Leu Arg Ile Phe Lys Val Thr Arg His Trp Ala
625 630 635 640

Ser Leu Ser Asn Leu Val Ala Ser Leu Leu Asn Ser Met Lys Ser Ile
645 650 655

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Ala Ser Leu Leu Leu Leu Phe Leu Phe Ile Ile Ile Phe Ser Leu
660 665 670

Leu Gly Met Gln Leu Phe Gly Gly Lys Phe Asn Phe Asp Gln Thr His
675 680 685

Thr Lys Arg Ser Thr Phe Asp Thr Phe Pro Gln Ala Leu Leu Thr Val
690 695 700

Phe Gln Ile Leu Thr Gly Glu Asp Trp Asn Val Val Met Tyr Asp Gly
705 710 715 720

Ile Met Ala Tyr Gly Gly Pro Phe Pro Gly Met Leu Val Cys Ile
725 730 735

Tyr Phe Ile Ile Leu Phe Ile Cys Gly Asn Tyr Ile Leu Leu Asn Val
740 745 750

Phe Leu Ala Ile Ala Val Asp Asn Leu Ala Ser Gly Asp Ala Gly Thr
755 760 765

Ala Lys Asp Lys Gly Gly Glu Lys Ser Asn Glu Lys Asp Leu Pro Gln
770 775 780

Glu Asn Glu Gly Leu Val Pro Gly Val Glu Lys Glu Glu Glu Glu Gly
785 790 795 800

Ala Arg Arg Glu Gly Ala Asp Met Glu Glu Glu Glu Glu Glu Glu
805 810 815

Glu Glu Glu Glu Glu Glu Glu Glu Gly Ala Gly Gly Val Glu Leu
820 825 830

Leu Gln Glu Val Val Pro Lys Glu Lys Val Val Pro Ile Pro Glu Gly
835 840 845

Ser Ala Phe Phe Cys Leu Ser Gln Thr Asn Pro Leu Arg Lys Gly Cys
850 855 860

His Thr Leu Ile His His His Val Phe Thr Asn Leu Ile Leu Val Phe
865 870 875 880

Ile Ile Leu Ser Ser Val Ser Leu Ala Ala Glu Asp Pro Ile Arg Ala
885 890 895

His Ser Phe Arg Asn His Ile Leu Gly Tyr Phe Asp Tyr Ala Phe Thr
900 905 910

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Ser Ile Phe Thr Val Glu Ile Leu Leu Lys Met Thr Val Phe Gly Ala
915 920 925

Phe Leu His Arg Gly Ser Phe Cys Arg Ser Trp Phe Asn Met Leu Asp
930 935 940

Leu Leu Val Val Ser Val Ser Leu Ile Ser Phe Gly Ile His Ser Ser
945 950 955 960

Ala Ile Ser Val Val Lys Ile Leu Arg Val Leu Arg Val Leu Arg Pro
965 970 975

Leu Arg Ala Ile Asn Arg Ala Lys Gly Leu Lys His Val Val Gln Cys
980 985 990

Val Phe Val Ala Ile Arg Thr Ile Gly Asn Ile Met Ile Val Thr Thr
995 1000 1005

Leu Leu Gln Phe Met Phe Ala Cys Ile Gly Val Gln Leu Phe Lys
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Gly Lys Phe Tyr Thr Cys Thr Asp Glu Ala Lys His Thr Pro Gln
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Glu Cys Lys Gly Ser Phe Leu Val Tyr Pro Asp Gly Asp Val Ser
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Arg Pro Leu Val Arg Glu Arg Leu Trp Val Asn Ser Asp Phe Asn
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Phe Asp Asn Val Leu Ser Ala Met Met Ala Leu Phe Thr Val Ser
1070 1075 1080

Thr Phe Glu Gly Trp Pro Ala Leu Leu Tyr Lys Ala Ile Asp Ala
1085 1090 1095

Tyr Ala Glu Asp His Gly Pro Ile Tyr Asn Tyr Arg Val Glu Ile
1100 1105 1110

Ser Val Phe Phe Ile Val Tyr Ile Ile Ile Ile Ala Phe Phe Met
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Met Asn Ile Phe Val Gly Phe Val Ile Ile Thr Phe Arg Ala Gln
1130 1135 1140

Gly Glu Gln Glu Tyr Gln Asn Cys Glu Leu Asp Lys Asn Gln Arg
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1145

1150

1155

Gln Cys Val Glu Tyr Ala Leu Lys Ala Gln Pro Leu Arg Arg Tyr
 1160 1165 1170

Ile Pro Lys Asn Pro His Gln Tyr Arg Val Trp Ala Thr Val Asn
 1175 1180 1185

Ser Ala Ala Phe Glu Tyr Leu Met Phe Leu Leu Ile Leu Leu Asn
 1190 1195 1200

Thr Val Ala Leu Ala Met Gln His Tyr Glu Gln Thr Ala Pro Phe
 1205 1210 1215

Asn Tyr Ala Met Asp Ile Leu Asn Met Val Phe Thr Gly Leu Phe
 1220 1225 1230

Thr Ile Glu Met Val Leu Lys Ile Ile Ala Phe Lys Pro Lys His
 1235 1240 1245

Tyr Phe Thr Asp Ala Trp Asn Thr Phe Asp Ala Leu Ile Val Val
 1250 1255 1260

Gly Ser Ile Val Asp Ile Ala Val Thr Glu Val Asn Asn Gly Gly
 1265 1270 1275

His Leu Gly Glu Ser Ser Glu Asp Ser Ser Arg Ile Ser Ile Thr
 1280 1285 1290

Phe Phe Arg Leu Phe Arg Val Met Arg Leu Val Lys Leu Leu Ser
 1295 1300 1305

Lys Gly Glu Gly Ile Arg Thr Leu Leu Trp Thr Phe Ile Lys Ser
 1310 1315 1320

Phe Gln Ala Leu Pro Tyr Val Ala Leu Leu Ile Ala Met Ile Phe
 1325 1330 1335

Phe Ile Tyr Ala Val Ile Gly Met Gln Met Phe Gly Lys Val Ala
 1340 1345 1350

Leu Gln Asp Gly Thr Gln Ile Asn Arg Asn Asn Asn Phe Gln Thr
 1355 1360 1365

Phe Pro Gln Ala Val Leu Leu Leu Phe Arg Cys Ala Thr Gly Glu
 1370 1375 1380

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Ala Trp Gln Glu Ile Met Leu Ala Ser Leu Pro Gly Asn Arg Cys
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Ser Asn Phe Ala Ile Ala Tyr Phe Ile Ser Phe Phe Met Leu Cys
1415 1420 1425

Ala Phe Leu Ile Ile Asn Leu Phe Val Ala Val Ile Met Asp Asn
1430 1435 1440

Phe Asp Tyr Leu Thr Arg Asp Trp Ser Ile Leu Gly Pro His His
1445 1450 1455

Leu Asp Glu Phe Lys Arg Ile Trp Ser Glu Tyr Asp Pro Gly Ala
1460 1465 1470

Lys Gly Arg Ile Lys His Leu Asp Val Val Ala Leu Leu Arg Arg
1475 1480 1485

Ile Gln Pro Pro Leu Gly Phe Gly Lys Leu Cys Pro His Arg Val
1490 1495 1500

Ala Cys Lys Arg Leu Val Ala Met Asn Met Pro Leu Asn Ser Asp
1505 1510 1515

Gly Thr Val Thr Phe Asn Ala Thr Leu Phe Ala Leu Val Arg Thr
1520 1525 1530

Ser Leu Lys Ile Lys Thr Glu Gly Asn Leu Glu Gln Ala Asn Gln
1535 1540 1545

Glu Leu Arg Ile Val Ile Lys Lys Ile Trp Lys Arg Met Lys Gln
1550 1555 1560

Lys Leu Leu Asp Glu Val Ile Pro Pro Pro Asp Glu Glu Glu Val
1565 1570 1575

Thr Val Gly Lys Phe Tyr Ala Thr Phe Leu Ile Gln Asp Tyr Phe
1580 1585 1590

Arg Lys Phe Arg Arg Arg Lys Glu Lys Gly Leu Leu Gly Asn Asp
1595 1600 1605

Ala Ala Pro Ser Thr Ser Ser Ala Leu Gln Ala Gly Leu Arg Ser
1610 1615 1620

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Leu Gln Asp Leu Gly Pro Glu Met Arg Gln Ala Leu Thr Cys Asp
1625 1630 1635

Thr Glu Glu Glu Glu Glu Gly Gln Glu Gly Val Glu Glu Glu
1640 1645 1650

Asp Glu Lys Asp Leu Glu Thr Asn Lys Ala Thr Met Val Ser Gln
1655 1660 1665

Pro Ser Ala Arg Arg Gly Ser Gly Ile Ser Val Ser Leu Pro Val
1670 1675 1680

Gly Asp Arg Leu Pro Asp Ser Leu Ser Phe Gly Pro Ser Asp Asp
1685 1690 1695

Asp Arg Gly Thr Pro Thr Ser Ser Gln Pro Ser Val Pro Gln Ala
1700 1705 1710

Gly Ser Asn Thr His Arg Arg Gly Ser Gly Ala Leu Ile Phe Thr
1715 1720 1725

Ile Pro Glu Glu Gly Asn Ser Gln Pro Lys Gly Thr Lys Gly Gln
1730 1735 1740

Asn Lys Gln Asp Glu Asp Glu Glu Val Pro Asp Arg Leu Ser Tyr
1745 1750 1755

Leu Asp Glu Gln Ala Gly Thr Pro Pro Cys Ser Val Leu Leu Pro
1760 1765 1770

Pro His Arg Ala Gln Arg Tyr Met Asp Gly His Leu Val Pro Arg
1775 1780 1785

Arg Arg Leu Leu Pro Pro Thr Pro Ala Gly Arg Lys Pro Ser Phe
1790 1795 1800

Thr Ile Gln Cys Leu Gln Arg Gln Gly Ser Cys Glu Asp Leu Pro
1805 1810 1815

Ile Pro Gly Thr Tyr His Arg Gly Arg Asn Ser Gly Pro Asn Arg
1820 1825 1830

Ala Gln Gly Ser Trp Ala Thr Pro Pro Gln Arg Gly Arg Leu Leu
1835 1840 1845

Tyr Ala Pro Leu Leu Leu Val Glu Glu Gly Ala Ala Gly Glu Gly
1850 1855 1860

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Tyr Leu Gly Arg Ser Ser Gly Pro Leu Arg Thr Phe Thr Cys Leu
1865 1870 1875

His Val Pro Gly Thr His Ser Asp Pro Ser His Gly Lys Arg Gly
1880 1885 1890

Ser Ala Asp Ser Leu Val Glu Ala Val Leu Ile Ser Glu Gly Leu
1895 1900 1905

Gly Leu Phe Ala Arg Asp Pro Arg Phe Val Ala Leu Ala Lys Gln
1910 1915 1920

Glu Ile Ala Asp Ala Cys Arg Leu Thr Leu Asp Glu Met Asp Asn
1925 1930 1935

Ala Ala Ser Asp Leu Leu Ala Gln Gly Thr Ser Ser Leu Tyr Ser
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1970 1975

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<211> 2339

<212> PRT

<213> Homo sapiens

<400> 8

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Gly Pro Gly Gly Leu Gln Pro Gly Gln Arg Val Leu Tyr Lys Gln Ser
35 40 45

Ile Ala Gln Arg Ala Arg Thr Met Ala Leu Tyr Asn Pro Ile Pro Val
50 55 60

Lys Gln Asn Cys Phe Thr Val Asn Arg Ser Leu Phe Val Phe Ser Glu
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65

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75

80

Asp Asn Val Val Arg Lys Tyr Ala Lys Arg Ile Thr Glu Trp Pro Pro
 85 90 95

Phe Glu Tyr Met Ile Leu Ala Thr Ile Ile Ala Asn Cys Ile Val Leu
 100 105 110

Ala Leu Glu Gln His Leu Pro Asp Gly Asp Lys Thr Pro Met Ser Glu
 115 120 125

Arg Leu Asp Asp Thr Glu Pro Tyr Phe Ile Gly Ile Phe Cys Phe Glu
 130 135 140

Ala Gly Ile Lys Ile Ile Ala Leu Gly Phe Val Phe His Lys Gly Ser
 145 150 155 160

Tyr Leu Arg Asn Gly Trp Asn Val Met Asp Phe Val Val Val Leu Thr
 165 170 175

Gly Ile Leu Ala Thr Ala Gly Thr Asp Phe Asp Leu Arg Thr Leu Arg
 180 185 190

Ala Val Arg Val Leu Arg Pro Leu Lys Leu Val Ser Gly Ile Pro Ser
 195 200 205

Leu Gln Val Val Leu Lys Ser Ile Met Lys Ala Met Val Pro Leu Leu
 210 215 220

Gln Ile Gly Leu Leu Leu Phe Phe Ala Ile Leu Met Phe Ala Ile Ile
 225 230 235 240

Gly Leu Glu Phe Tyr Met Gly Lys Phe His Lys Ala Cys Phe Pro Asn
 245 250 255

Ser Thr Asp Ala Glu Pro Val Gly Asp Phe Pro Cys Gly Lys Glu Ala
 260 265 270

Pro Ala Arg Leu Cys Glu Gly Asp Thr Glu Cys Arg Glu Tyr Trp Pro
 275 280 285

Gly Pro Asn Phe Gly Ile Thr Asn Phe Asp Asn Ile Leu Phe Ala Ile
 290 295 300

Leu Thr Val Phe Gln Cys Ile Thr Met Glu Gly Trp Thr Asp Ile Leu
 305 310 315 320

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Tyr Asn Thr Asn Asp Ala Ala Gly Asn Thr Trp Asn Trp Leu Tyr Phe
325 330 335

Ile Pro Leu Ile Ile Gly Ser Phe Phe Met Leu Asn Leu Val Leu
340 345 350

Gly Val Leu Ser Gly Glu Phe Ala Lys Glu Arg Glu Arg Val Glu Asn
355 360 365

Arg Arg Ala Phe Leu Lys Leu Arg Arg Gln Gln Ile Glu Arg Glu
370 375 380

Leu Asn Gly Tyr Leu Glu Trp Ile Phe Lys Ala Glu Glu Val Met Leu
385 390 395 400

Ala Glu Glu Asp Arg Asn Ala Glu Glu Lys Ser Pro Leu Asp Val Leu
405 410 415

Lys Arg Ala Ala Thr Lys Lys Ser Arg Asn Asp Leu Ile His Ala Glu
420 425 430

Glu Gly Glu Asp Arg Phe Ala Asp Leu Cys Ala Val Gly Ser Pro Phe
435 440 445

Ala Arg Ala Ser Leu Lys Ser Gly Lys Thr Glu Ser Ser Ser Tyr Phe
450 455 460

Arg Arg Lys Glu Lys Met Phe Arg Phe Phe Ile Arg Arg Met Val Lys
465 470 475 480

Ala Gln Ser Phe Tyr Trp Val Val Leu Cys Val Val Ala Leu Asn Thr
485 490 495

Leu Cys Val Ala Met Val His Tyr Asn Gln Pro Arg Arg Leu Thr Thr
500 505 510

Thr Leu Tyr Phe Ala Glu Phe Val Phe Leu Gly Leu Phe Leu Thr Glu
515 520 525

Met Ser Leu Lys Met Tyr Gly Leu Gly Pro Arg Ser Tyr Phe Arg Ser
530 535 540

Ser Phe Asn Cys Phe Asp Phe Gly Val Ile Val Gly Ser Val Phe Glu
545 550 555 560

Val Val Trp Ala Ala Ile Lys Pro Gly Ser Ser Phe Gly Ile Ser Val
565 570 575

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Leu Arg Ala Leu Arg Leu Leu Arg Ile Phe Lys Val Thr Lys Tyr Trp
580 585 590

Ser Ser Leu Arg Asn Leu Val Val Ser Leu Leu Asn Ser Met Lys Ser
595 600 605

Ile Ile Ser Leu Leu Phe Leu Leu Phe Leu Phe Ile Val Val Phe Ala
610 615 620

Leu Leu Gly Met Gln Leu Phe Gly Gly Gln Phe Asn Phe Gln Asp Glu
625 630 635 640

Thr Pro Thr Thr Asn Phe Asp Thr Phe Pro Ala Ala Ile Leu Thr Val
645 650 655

Phe Gln Ile Leu Thr Gly Glu Asp Trp Asn Ala Val Met Tyr His Gly
660 665 670

Ile Glu Ser Gln Gly Gly Val Ser Lys Gly Met Phe Ser Ser Phe Tyr
675 680 685

Phe Ile Val Leu Thr Leu Phe Gly Asn Tyr Thr Leu Leu Asn Val Phe
690 695 700

Leu Ala Ile Ala Val Asp Asn Leu Ala Asn Ala Gln Glu Leu Thr Lys
705 710 715 720

Asp Glu Glu Glu Met Glu Glu Ala Ala Asn Gln Lys Leu Ala Leu Gln
725 730 735

Lys Ala Lys Glu Val Ala Glu Val Ser Pro Met Ser Ala Ala Asn Ile
740 745 750

Ser Ile Ala Ala Arg Gln Gln Asn Ser Ala Lys Ala Arg Ser Val Trp
755 760 765

Glu Gln Arg Ala Ser Gln Leu Arg Leu Gln Asn Leu Arg Ala Ser Cys
770 775 780

Glu Ala Leu Tyr Ser Glu Met Asp Pro Glu Glu Arg Leu Arg Phe Ala
785 790 795 800

Thr Thr Arg His Leu Arg Pro Asp Met Lys Thr His Leu Asp Arg Pro
805 810 815

Leu Val Val Glu Leu Gly Arg Asp Gly Ala Arg Gly Pro Val Gly Gly
820 825 830

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Lys Ala Arg Pro Glu Ala Ala Glu Ala Pro Glu Gly Val Asp Pro Pro
835 840 845

Arg Arg His His Arg His Arg Asp Lys Asp Lys Thr Pro Ala Ala Gly
850 855 860

Asp Gln Asp Arg Ala Glu Ala Pro Lys Ala Glu Ser Gly Glu Pro Gly
865 870 875 880

Ala Arg Glu Glu Arg Pro Arg Pro His Arg Ser His Ser Lys Glu Ala
885 890 895

Ala Gly Pro Pro Glu Ala Arg Ser Glu Arg Gly Arg Gly Pro Gly Pro
900 905 910

Glu Gly Gly Arg Arg His His Arg Arg Gly Ser Pro Glu Glu Ala Ala
915 920 925

Glu Arg Glu Pro Arg Arg His Arg Ala His Arg His Gln Asp Pro Ser
930 935 940

Lys Glu Cys Ala Gly Ala Lys Gly Glu Arg Arg Ala Arg His Arg Gly
945 950 955 960

Gly Pro Arg Ala Gly Pro Arg Glu Ala Glu Ser Gly Glu Glu Pro Ala
965 970 975

Arg Arg His Arg Ala Arg His Lys Ala Gln Pro Ala His Glu Ala Val
980 985 990

Glu Lys Glu Thr Thr Glu Lys Glu Ala Thr Glu Lys Glu Ala Glu Ile
995 1000 1005

Val Glu Ala Asp Lys Glu Lys Glu Leu Arg Asn His Gln Pro Arg
1010 1015 1020

Glu Pro His Cys Asp Leu Glu Thr Ser Gly Thr Val Thr Val Gly
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Pro Met His Thr Leu Pro Ser Thr Cys Leu Gln Lys Val Glu Glu
1040 1045 1050

Gln Pro Glu Asp Ala Asp Asn Gln Arg Asn Val Thr Arg Met Gly
1055 1060 1065

Ser Gln Pro Pro Asp Pro Asn Thr Ile Val His Ile Pro Val Met
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1070

1075

1080

Leu Thr Gly Pro Leu Gly Glu Ala Thr Val Val Pro Ser Gly Asn
1085 1090 1095

Val Asp Leu Glu Ser Gln Ala Glu Gly Lys Lys Glu Val Glu Ala
1100 1105 1110

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Phe Ile Phe Ala Val Ile Ala Val Gln Leu Phe Lys Gly Lys Phe
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Gly Gln Tyr Leu Asp Tyr Glu Lys Glu Glu Val Glu Ala Gln Pro
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Arg Gln Trp Lys Lys Tyr Asp Phe His Tyr Asp Asn Val Leu Trp
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Ala Leu Leu Thr Leu Phe Thr Val Ser Thr Gly Glu Gly Trp Pro
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Met Val Leu Lys His Ser Val Asp Ala Thr Tyr Glu Glu Gln Gly
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Pro Ser Pro Gly Tyr Arg Met Glu Leu Ser Ile Phe Tyr Val Val
1385 1390 1395

Tyr Phe Val Val Phe Pro Phe Phe Phe Val Asn Ile Phe Val Ala
1400 1405 1410

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Ser Phe Gln Tyr Lys Thr Trp Thr Phe Val Val Ser Pro Pro Phe
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Val Leu Lys Ile Ile Ala Phe Gly Val Leu Asn Tyr Phe Arg Asp
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Ala Trp Asn Val Phe Asp Phe Val Thr Val Leu Gly Ser Ile Thr
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1595 1600 1605

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1625 1630 1635

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1640 1645 1650

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1655 1660 1665

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1670 1675 1680

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1685 1690 1695

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1700 1705 1710

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1715 1720 1725

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1730 1735 1740

Ile Ser Tyr Asn Asp Met Phe Glu Met Leu Lys His Met Ser Pro
1745 1750 1755

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1760 1765 1770

Arg Leu Val Arg Met Asn Met Pro Ile Ser Asn Glu Asp Met Thr
1775 1780 1785

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Val His Phe Thr Ser Thr Leu Met Ala Leu Ile Arg Thr Ala Leu
1790 1795 1800

Glu Ile Lys Leu Ala Pro Ala Gly Thr Lys Gln His Gln Cys Asp
1805 1810 1815

Ala Glu Leu Arg Lys Glu Ile Ser Val Val Trp Ala Asn Leu Pro
1820 1825 1830

Gln Lys Thr Leu Asp Leu Leu Val Pro Pro His Lys Pro Asp Glu
1835 1840 1845

Met Thr Val Gly Lys Val Tyr Ala Ala Leu Met Ile Phe Asp Phe
1850 1855 1860

Tyr Lys Gln Asn Lys Thr Thr Arg Asp Gln Met Gln Gln Ala Pro
1865 1870 1875

Gly Gly Leu Ser Gln Met Gly Pro Val Ser Leu Phe His Pro Leu
1880 1885 1890

Lys Ala Thr Leu Glu Gln Thr Gln Pro Ala Val Leu Arg Gly Ala
1895 1900 1905

Arg Val Phe Leu Arg Gln Lys Ser Ser Thr Ser Leu Ser Asn Gly
1910 1915 1920

Gly Ala Ile Gln Asn Gln Glu Ser Gly Ile Lys Glu Ser Val Ser
1925 1930 1935

Trp Gly Thr Gln Arg Thr Gln Asp Ala Pro His Glu Ala Arg Pro
1940 1945 1950

Pro Leu Glu Arg Gly His Ser Thr Glu Ile Pro Val Gly Arg Ser
1955 1960 1965

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1970 1975 1980

Gly Pro Asp Gly Glu Pro Gln Pro Gly Leu Glu Ser Gln Gly Arg
1985 1990 1995

Ala Ala Ser Met Pro Arg Leu Ala Ala Glu Thr Gln Pro Val Thr
2000 2005 2010

Asp Ala Ser Pro Met Lys Arg Ser Ile Ser Thr Leu Ala Gln Arg
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2015	2020	2025
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Pro Ser Gln Ala Ser Ser His His His His Arg Cys His Arg 2045 2050 2055		
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Ser Ala Asp Met Asp Gly Ala Pro Ser Ser Ala Val Gly Pro Gly 2075 2080 2085		
Leu Pro Pro Gly Glu Gly Pro Thr Gly Cys Arg Arg Glu Arg Glu 2090 2095 2100		
Arg Arg Gln Glu Arg Gly Arg Ser Gln Glu Arg Arg Gln Pro Ser 2105 2110 2115		
Ser Ser Ser Ser Glu Lys Gln Arg Phe Tyr Ser Cys Asp Arg Phe 2120 2125 2130		
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Ala Ser Thr Pro Gly Arg Gly Arg Arg Gln Leu Pro Gln Thr 2180 2185 2190		
Pro Leu Thr Pro Arg Pro Ser Ile Thr Tyr Lys Thr Ala Asn Ser 2195 2200 2205		
Ser Pro Ile His Phe Ala Gly Ala Gln Thr Ser Leu Pro Ala Phe 2210 2215 2220		
Ser Pro Gly Arg Leu Ser Arg Gly Leu Ser Glu His Asn Ala Leu 2225 2230 2235		
Leu Gln Arg Asp Pro Leu Ser Gln Pro Leu Ala Pro Gly Ser Arg 2240 2245 2250		

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Ile Gly Ser Asp Pro Tyr Leu Gly Gln Arg Leu Asp Ser Glu Ala
2255 2260 2265

Ser Val His Ala Leu Pro Glu Asp Thr Leu Thr Phe Glu Glu Ala
2270 2275 2280

Val Ala Thr Asn Ser Gly Arg Ser Ser Arg Thr Ser Tyr Val Ser
2285 2290 2295

Ser Leu Thr Ser Gln Ser His Pro Leu Arg Arg Val Pro Asn Gly
2300 2305 2310

Tyr His Cys Thr Leu Gly Leu Ser Ser Gly Gly Arg Ala Arg His
2315 2320 2325

Ser Tyr His His Pro Asp Gln Asp His Trp Cys
2330 2335

<210> 9

<211> 2505

<212> PRT

<213> Homo sapiens

<400> 9

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1 5 10 15

Ser Gly Ala Ala Ala Gly Val Val Val Gly Ser Gly Gly Arg Gly
20 25 30

Ala Gly Gly Ser Arg Gln Gly Gly Gln Pro Gly Ala Gln Arg Met Tyr
35 40 45

Lys Gln Ser Met Ala Gln Arg Ala Arg Thr Met Ala Leu Tyr Asn Pro
50 55 60

Ile Pro Val Arg Gln Asn Cys Leu Thr Val Asn Arg Ser Leu Phe Leu
65 70 75 80

Phe Ser Glu Asp Asn Val Val Arg Lys Tyr Ala Lys Lys Ile Thr Glu
85 90 95

Trp Pro Pro Phe Glu Tyr Met Ile Leu Ala Thr Ile Ile Ala Asn Cys
100 105 110

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Ile Val Leu Ala Leu Glu Gln His Leu Pro Asp Asp Asp Lys Thr Pro
115 120 125

Met Ser Glu Arg Leu Asp Asp Thr Glu Pro Tyr Phe Ile Gly Ile Phe
130 135 140

Cys Phe Glu Ala Gly Ile Lys Ile Ile Ala Leu Gly Phe Ala Phe His
145 150 155 160

Lys Gly Ser Tyr Leu Arg Asn Gly Trp Asn Val Met Asp Phe Val Val
165 170 175

Val Leu Thr Gly Ile Leu Ala Thr Val Gly Thr Glu Phe Asp Leu Arg
180 185 190

Thr Leu Arg Ala Val Arg Val Leu Arg Pro Leu Lys Leu Val Ser Gly
195 200 205

Ile Pro Ser Leu Gln Val Val Leu Lys Ser Ile Met Lys Ala Met Ile
210 215 220

Pro Leu Leu Gln Ile Gly Leu Leu Leu Phe Phe Ala Ile Leu Ile Phe
225 230 235 240

Ala Ile Ile Gly Leu Glu Phe Tyr Met Gly Lys Phe His Thr Thr Cys
245 250 255

Phe Glu Glu Gly Thr Asp Asp Ile Gln Gly Glu Ser Pro Ala Pro Cys
260 265 270

Gly Thr Glu Glu Pro Ala Arg Thr Cys Pro Asn Gly Thr Lys Cys Gln
275 280 285

Pro Tyr Trp Glu Gly Pro Asn Asn Gly Ile Thr Gln Phe Asp Asn Ile
290 295 300

Leu Phe Ala Val Leu Thr Val Phe Gln Cys Ile Thr Met Glu Gly Trp
305 310 315 320

Thr Asp Leu Leu Tyr Asn Ser Asn Asp Ala Ser Gly Asn Thr Trp Asn
325 330 335

Trp Leu Tyr Phe Ile Pro Leu Ile Ile Gly Ser Phe Phe Met Leu
340 345 350

Asn Leu Val Leu Gly Val Leu Ser Gly Glu Phe Ala Lys Glu Arg Glu
355 360 365

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Arg Val Glu Asn Arg Arg Ala Phe Leu Lys Leu Arg Arg Gln Gln Gln
370 375 380

Ile Glu Arg Glu Leu Asn Gly Tyr Met Glu Trp Ile Ser Lys Ala Glu
385 390 395 400

Glu Val Ile Leu Ala Glu Asp Glu Thr Asp Gly Glu Gln Arg His Pro
405 410 415

Phe Asp Gly Ala Leu Arg Arg Thr Thr Ile Lys Lys Ser Lys Thr Asp
420 425 430

Leu Leu Asn Pro Glu Glu Ala Glu Asp Gln Leu Ala Asp Ile Ala Ser
435 440 445

Val Gly Ser Pro Phe Ala Arg Ala Ser Ile Lys Ser Ala Lys Leu Glu
450 455 460

Asn Ser Thr Phe Phe His Lys Lys Glu Arg Arg Met Arg Phe Tyr Ile
465 470 475 480

Arg Arg Met Val Lys Thr Gln Ala Phe Tyr Trp Thr Val Leu Ser Leu
485 490 495

Val Ala Leu Asn Thr Leu Cys Val Ala Ile Val His Tyr Asn Gln Pro
500 505 510

Glu Trp Leu Ser Asp Phe Leu Tyr Tyr Ala Glu Phe Ile Phe Leu Gly
515 520 525

Leu Phe Met Ser Glu Met Phe Ile Lys Met Tyr Gly Leu Gly Thr Arg
530 535 540

Pro Tyr Phe His Ser Ser Phe Asn Cys Phe Asp Cys Gly Val Ile Ile
545 550 555 560

Gly Ser Ile Phe Glu Val Ile Trp Ala Val Ile Lys Pro Gly Thr Ser
565 570 575

Phe Gly Ile Ser Val Leu Arg Ala Leu Arg Leu Leu Arg Ile Phe Lys
580 585 590

Val Thr Lys Tyr Trp Ala Ser Leu Arg Asn Leu Val Val Ser Leu Leu
595 600 605

Asn Ser Met Lys Ser Ile Ser Leu Leu Phe Leu Leu Phe Leu Phe
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610

615

620

Ile Val Val Phe Ala Leu Leu Gly Met Gln Leu Phe Gly Gly Gln Phe
625 630 635 640

Asn Phe Asp Glu Gly Thr Pro Pro Thr Asn Phe Asp Thr Phe Pro Ala
645 650 655

Ala Ile Met Thr Val Phe Gln Ile Leu Thr Gly Glu Asp Trp Asn Glu
660 665 670

Val Met Tyr Asp Gly Ile Lys Ser Gln Gly Gly Val Gln Gly Gly Met
675 680 685

Val Phe Ser Ile Tyr Phe Ile Val Leu Thr Leu Phe Gly Asn Tyr Thr
690 695 700

Leu Leu Asn Val Phe Leu Ala Ile Ala Val Asp Asn Leu Ala Asn Ala
705 710 715 720

Gln Glu Leu Thr Lys Asp Glu Gln Glu Glu Glu Ala Ala Asn Gln
725 730 735

Lys Leu Ala Leu Gln Lys Ala Lys Glu Val Ala Glu Val Ser Pro Leu
740 745 750

Ser Ala Ala Asn Met Ser Ile Ala Val Lys Glu Gln Gln Lys Asn Gln
755 760 765

Lys Pro Ala Lys Ser Val Trp Glu Gln Arg Thr Ser Glu Met Arg Lys
770 775 780

Gln Asn Leu Leu Ala Ser Arg Glu Ala Leu Tyr Asn Glu Met Asp Pro
785 790 795 800

Asp Glu Arg Trp Lys Ala Ala Tyr Thr Arg His Leu Arg Pro Asp Met
805 810 815

Lys Thr His Leu Asp Arg Pro Leu Val Val Asp Pro Gln Glu Asn Arg
820 825 830

Asn Asn Asn Thr Asn Lys Ser Arg Ala Ala Glu Pro Thr Val Asp Gln
835 840 845

Arg Leu Gly Gln Gln Arg Ala Glu Asp Phe Leu Arg Lys Gln Ala Arg
850 855 860

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Tyr His Asp Arg Ala Arg Asp Pro Ser Gly Ser Ala Gly Leu Asp Ala
865 870 875 880

Arg Arg Pro Trp Ala Gly Ser Gln Glu Ala Glu Leu Ser Arg Glu Gly
885 890 895

Pro Tyr Gly Arg Glu Ser Asp His His Ala Arg Glu Gly Ser Leu Glu
900 905 910

Gln Pro Gly Phe Trp Glu Gly Glu Ala Glu Arg Gly Lys Ala Gly Asp
915 920 925

Pro His Arg Arg His Val His Arg Gln Gly Gly Ser Arg Glu Ser Arg
930 935 940

Ser Gly Ser Pro Arg Thr Gly Ala Asp Gly Glu His Arg Arg His Arg
945 950 955 960

Ala His Arg Arg Pro Gly Glu Glu Gly Pro Glu Asp Lys Ala Glu Arg
965 970 975

Arg Ala Arg His Arg Glu Gly Ser Arg Pro Ala Arg Gly Glu Gly
980 985 990

Glu Gly Glu Gly Pro Asp Gly Gly Glu Arg Arg Arg His Arg His
995 1000 1005

Gly Ala Pro Ala Thr Tyr Glu Gly Asp Ala Arg Arg Glu Asp Lys
1010 1015 1020

Glu Arg Arg His Arg Arg Arg Lys Glu Asn Gln Gly Ser Gly Val
1025 1030 1035

Pro Val Ser Gly Pro Asn Leu Ser Thr Thr Arg Pro Ile Gln Gln
1040 1045 1050

Asp Leu Gly Arg Gln Asp Pro Pro Leu Ala Glu Asp Ile Asp Asn
1055 1060 1065

Met Lys Asn Asn Lys Leu Ala Thr Ala Glu Ser Ala Ala Pro His
1070 1075 1080

Gly Ser Leu Gly His Ala Gly Leu Pro Gln Ser Pro Ala Lys Met
1085 1090 1095

Gly Asn Ser Thr Asp Pro Gly Pro Met Leu Ala Ile Pro Ala Met
1100 1105 1110

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Ala Thr Asn Pro Gln Asn Ala Ala Ser Arg Arg Thr Pro Asn Asn
1115 1120 1125

Pro Gly Asn Pro Ser Asn Pro Gly Pro Pro Lys Thr Pro Glu Asn
1130 1135 1140

Ser Leu Ile Val Thr Asn Pro Ser Gly Thr Gln Thr Asn Ser Ala
1145 1150 1155

Lys Thr Ala Arg Lys Pro Asp His Thr Thr Val Asp Ile Pro Pro
1160 1165 1170

Ala Cys Pro Pro Pro Leu Asn His Thr Val Val Gln Val Asn Lys
1175 1180 1185

Asn Ala Asn Pro Asp Pro Leu Pro Lys Lys Glu Glu Glu Lys Lys
1190 1195 1200

Glu Glu Glu Glu Asp Asp Arg Gly Glu Asp Gly Pro Lys Pro Met
1205 1210 1215

Pro Pro Tyr Ser Ser Met Phe Ile Leu Ser Thr Thr Asn Pro Leu
1220 1225 1230

Arg Arg Leu Cys His Tyr Ile Leu Asn Leu Arg Tyr Phe Glu Met
1235 1240 1245

Cys Ile Leu Met Val Ile Ala Met Ser Ser Ile Ala Leu Ala Ala
1250 1255 1260

Glu Asp Pro Val Gln Pro Asn Ala Pro Arg Asn Asn Val Leu Arg
1265 1270 1275

Tyr Phe Asp Tyr Val Phe Thr Gly Val Phe Thr Phe Glu Met Val
1280 1285 1290

Ile Lys Met Ile Asp Leu Gly Leu Val Leu His Gln Gly Ala Tyr
1295 1300 1305

Phe Arg Asp Leu Trp Asn Ile Leu Asp Phe Ile Val Val Ser Gly
1310 1315 1320

Ala Leu Val Ala Phe Ala Phe Thr Gly Asn Ser Lys Gly Lys Asp
1325 1330 1335

Ile Asn Thr Ile Lys Ser Leu Arg Val Leu Arg Val Leu Arg Pro
1340 1345 1350

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Leu Lys Thr Ile Lys Arg Leu Pro Lys Leu Lys Ala Val Phe Asp
1355 1360 1365

Cys Val Val Asn Ser Leu Lys Asn Val Phe Asn Ile Leu Ile Val
1370 1375 1380

Tyr Met Leu Phe Met Phe Ile Phe Ala Val Val Ala Val Gln Leu
1385 1390 1395

Phe Lys Gly Lys Phe Phe His Cys Thr Asp Glu Ser Lys Glu Phe
1400 1405 1410

Glu Lys Asp Cys Arg Gly Lys Tyr Leu Leu Tyr Glu Lys Asn Glu
1415 1420 1425

Val Lys Ala Arg Asp Arg Glu Trp Lys Lys Tyr Glu Phe His Tyr
1430 1435 1440

Asp Asn Val Leu Trp Ala Leu Leu Thr Leu Phe Thr Val Ser Thr
1445 1450 1455

Gly Glu Gly Trp Pro Gln Val Leu Lys His Ser Val Asp Ala Thr
1460 1465 1470

Phe Glu Asn Gln Gly Pro Ser Pro Gly Tyr Arg Met Glu Met Ser
1475 1480 1485

Ile Phe Tyr Val Val Tyr Phe Val Val Phe Pro Phe Phe Val
1490 1495 1500

Asn Ile Phe Val Ala Leu Ile Ile Ile Thr Phe Gln Glu Gln Gly
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Asp Lys Met Met Glu Glu Tyr Ser Leu Glu Lys Asn Glu Arg Ala
1520 1525 1530

Cys Ile Asp Phe Ala Ile Ser Ala Lys Pro Leu Thr Arg His Met
1535 1540 1545

Pro Gln Asn Lys Gln Ser Phe Gln Tyr Arg Met Trp Gln Phe Val
1550 1555 1560

Val Ser Pro Pro Phe Glu Tyr Thr Ile Met Ala Met Ile Ala Leu
1565 1570 1575

Asn Thr Ile Val Leu Met Met Lys Phe Tyr Gly Ala Ser Val Ala

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1580	1585	1590
Tyr Glu Asn Ala Leu Arg Val Phe Asn Ile Val Phe Thr Ser Leu		
1595	1600	1605
Phe Ser Leu Glu Cys Val Leu Lys Val Met Ala Phe Gly Ile Leu		
1610	1615	1620
Asn Tyr Phe Arg Asp Ala Trp Asn Ile Phe Asp Phe Val Thr Val		
1625	1630	1635
Leu Gly Ser Ile Thr Asp Ile Leu Val Thr Glu Phe Gly Asn Asn		
1640	1645	1650
Phe Ile Asn Leu Ser Phe Leu Arg Leu Phe Arg Ala Ala Arg Leu		
1655	1660	1665
Ile Lys Leu Leu Arg Gln Gly Tyr Thr Ile Arg Ile Leu Leu Trp		
1670	1675	1680
Thr Phe Val Gln Ser Phe Lys Ala Leu Pro Tyr Val Cys Leu Leu		
1685	1690	1695
Ile Ala Met Leu Phe Phe Ile Tyr Ala Ile Ile Gly Met Gln Val		
1700	1705	1710
Phe Gly Asn Ile Gly Ile Asp Val Glu Asp Glu Asp Ser Asp Glu		
1715	1720	1725
Asp Glu Phe Gln Ile Thr Glu His Asn Asn Phe Arg Thr Phe Phe		
1730	1735	1740
Gln Ala Leu Met Leu Leu Phe Arg Ser Ala Thr Gly Glu Ala Trp		
1745	1750	1755
His Asn Ile Met Leu Ser Cys Leu Ser Gly Lys Pro Cys Asp Lys		
1760	1765	1770
Asn Ser Gly Ile Leu Thr Arg Glu Cys Gly Asn Glu Phe Ala Tyr		
1775	1780	1785
Phe Tyr Phe Val Ser Phe Ile Phe Leu Cys Ser Phe Leu Met Leu		
1790	1795	1800
Asn Leu Phe Val Ala Val Ile Met Asp Asn Phe Glu Tyr Leu Thr		
1805	1810	1815

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Arg Asp Ser Ser Ile Leu Gly Pro His His Leu Asp Glu Tyr Val
1820 1825 1830

Arg Val Trp Ala Glu Tyr Asp Pro Ala Ala Trp Gly Arg Met Pro
1835 1840 1845

Tyr Leu Asp Met Tyr Gln Met Leu Arg His Met Ser Pro Pro Leu
1850 1855 1860

Gly Leu Gly Lys Lys Cys Pro Ala Arg Val Ala Tyr Lys Arg Leu
1865 1870 1875

Leu Arg Met Asp Leu Pro Val Ala Asp Asp Asn Thr Val His Phe
1880 1885 1890

Asn Ser Thr Leu Met Ala Leu Ile Arg Thr Ala Leu Asp Ile Lys
1895 1900 1905

Ile Ala Lys Gly Gly Ala Asp Lys Gln Gln Met Asp Ala Glu Leu
1910 1915 1920

Arg Lys Glu Met Met Ala Ile Trp Pro Asn Leu Ser Gln Lys Thr
1925 1930 1935

Leu Asp Leu Leu Val Thr Pro His Lys Ser Thr Asp Leu Thr Val
1940 1945 1950

Gly Lys Ile Tyr Ala Ala Met Met Ile Met Glu Tyr Tyr Arg Gln
1955 1960 1965

Ser Lys Ala Lys Lys Leu Gln Ala Met Arg Glu Glu Gln Asp Arg
1970 1975 1980

Thr Pro Leu Met Phe Gln Arg Met Glu Pro Pro Ser Pro Thr Gln
1985 1990 1995

Glu Gly Gly Pro Gly Gln Asn Ala Leu Pro Ser Thr Gln Leu Asp
2000 2005 2010

Pro Gly Gly Ala Leu Met Ala His Glu Ser Gly Leu Lys Glu Ser
2015 2020 2025

Pro Ser Trp Val Thr Gln Arg Ala Gln Glu Met Phe Gln Lys Thr
2030 2035 2040

Gly Thr Trp Ser Pro Glu Gln Gly Pro Pro Thr Asp Met Pro Asn
2045 2050 2055

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Ser Gln Pro Asn Ser Gln Ser Val Glu Met Arg Glu Met Gly Arg
2060 2065 2070

Asp Gly Tyr Ser Asp Ser Glu His Tyr Leu Pro Met Glu Gly Gln
2075 2080 2085

Gly Arg Ala Ala Ser Met Pro Arg Leu Pro Ala Glu Asn Gln Arg
2090 2095 2100

Arg Arg Gly Arg Pro Arg Gly Asn Asn Leu Ser Thr Ile Ser Asp
2105 2110 2115

Thr Ser Pro Met Lys Arg Ser Ala Ser Val Leu Gly Pro Lys Ala
2120 2125 2130

Arg Arg Leu Asp Asp Tyr Ser Leu Glu Arg Val Pro Pro Glu Glu
2135 2140 2145

Asn Gln Arg His His Gln Arg Arg Arg Asp Arg Ser His Arg Ala
2150 2155 2160

Ser Glu Arg Ser Leu Gly Arg Tyr Thr Asp Val Asp Thr Gly Leu
2165 2170 2175

Gly Thr Asp Leu Ser Met Thr Thr Gln Ser Gly Asp Leu Pro Ser
2180 2185 2190

Lys Glu Arg Asp Gln Glu Arg Gly Arg Pro Lys Asp Arg Lys His
2195 2200 2205

Arg Gln His His His His His His His His Pro Pro Pro
2210 2215 2220

Pro Asp Lys Asp Arg Tyr Ala Gln Glu Arg Pro Asp His Gly Arg
2225 2230 2235

Ala Arg Ala Arg Asp Gln Arg Trp Ser Arg Ser Pro Ser Glu Gly
2240 2245 2250

Arg Glu His Met Ala His Arg Gln Gly Ser Ser Ser Val Ser Gly
2255 2260 2265

Ser Pro Ala Pro Ser Thr Ser Gly Thr Ser Thr Pro Arg Arg Gly
2270 2275 2280

Arg Arg Gln Leu Pro Gln Thr Pro Ser Thr Pro Arg Pro His Val
2285 2290 2295

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Ser Tyr Ser Pro Val Ile Arg Lys Ala Gly Gly Ser Gly Pro Pro
2300 2305 2310

Gln Gln Gln Gln Gln Gln Gln Gln Gln Ala Val Ala Arg
2315 2320 2325

Pro Gly Arg Ala Ala Thr Ser Gly Pro Arg Arg Tyr Pro Gly Pro
2330 2335 2340

Thr Ala Glu Pro Leu Ala Gly Asp Arg Pro Pro Thr Gly Gly His
2345 2350 2355

Ser Ser Gly Arg Ser Pro Arg Met Glu Arg Arg Val Pro Gly Pro
2360 2365 2370

Ala Arg Ser Glu Ser Pro Arg Ala Cys Arg His Gly Gly Ala Arg
2375 2380 2385

Trp Pro Ala Ser Gly Pro His Val Ser Glu Gly Pro Pro Gly Pro
2390 2395 2400

Arg His His Gly Tyr Tyr Arg Gly Ser Asp Tyr Asp Glu Ala Asp
2405 2410 2415

Gly Pro Gly Ser Gly Gly Glu Glu Ala Met Ala Gly Ala Tyr
2420 2425 2430

Asp Ala Pro Pro Pro Val Arg His Ala Ser Ser Gly Ala Thr Gly
2435 2440 2445

Arg Ser Pro Arg Thr Pro Arg Ala Ser Gly Pro Ala Cys Ala Ser
2450 2455 2460

Pro Ser Arg His Gly Arg Arg Leu Pro Asn Gly Tyr Tyr Pro Ala
2465 2470 2475

His Gly Leu Ala Arg Pro Arg Gly Pro Gly Ser Arg Lys Gly Leu
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<212> PRT

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<213> Homo sapiens

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35 40 45

Lys Gln Ser Met Ala Gln Arg Ala Arg Thr Met Ala Leu Tyr Asn Pro
50 55 60

Ile Pro Val Arg Gln Asn Cys Leu Thr Val Asn Arg Ser Leu Phe Leu
65 70 75 80

Phe Ser Glu Asp Asn Val Val Arg Lys Tyr Ala Lys Lys Ile Thr Glu
85 90 95

Trp Pro Pro Phe Glu Tyr Met Ile Leu Ala Thr Ile Ile Ala Asn Cys
100 105 110

Ile Val Leu Ala Leu Glu Gln His Leu Pro Asp Asp Asp Lys Thr Pro
115 120 125

Met Ser Glu Arg Leu Asp Asp Thr Glu Pro Tyr Phe Ile Gly Ile Phe
130 135 140

Cys Phe Glu Ala Gly Ile Lys Ile Ile Ala Leu Gly Phe Ala Phe His
145 150 155 160

Lys Gly Ser Tyr Leu Arg Asn Gly Trp Asn Val Met Asp Phe Val Val
165 170 175

Val Leu Thr Gly Ile Leu Ala Thr Val Gly Thr Glu Phe Asp Leu Arg
180 185 190

Thr Leu Arg Ala Val Arg Val Leu Arg Pro Leu Lys Leu Val Ser Gly
195 200 205

Ile Pro Ser Leu Gln Val Val Leu Lys Ser Ile Met Lys Ala Met Ile
210 215 220

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Pro Leu Leu Gln Ile Gly Leu Leu Leu Phe Phe Ala Ile Leu Ile Phe
225 230 235 240

Ala Ile Ile Gly Leu Glu Phe Tyr Met Gly Lys Phe His Thr Thr Cys
245 250 255

Phe Glu Glu Gly Thr Asp Asp Ile Gln Gly Glu Ser Pro Ala Pro Cys
260 265 270

Gly Thr Glu Glu Pro Ala Arg Thr Cys Pro Asn Gly Thr Lys Cys Gln
275 280 285

Pro Tyr Trp Glu Gly Pro Asn Asn Gly Ile Thr Gln Phe Asp Asn Ile
290 295 300

Leu Phe Ala Val Leu Thr Val Phe Gln Cys Ile Thr Met Glu Gly Trp
305 310 315 320

Thr Asp Leu Leu Tyr Asn Ser Asn Asp Ala Ser Gly Asn Thr Trp Asn
325 330 335

Trp Leu Tyr Phe Ile Pro Leu Ile Ile Gly Ser Phe Phe Met Leu
340 345 350

Asn Leu Val Leu Gly Val Leu Ser Gly Glu Phe Ala Lys Glu Arg Glu
355 360 365

Arg Val Glu Asn Arg Arg Ala Phe Leu Lys Leu Arg Arg Gln Gln Gln
370 375 380

Ile Glu Arg Glu Leu Asn Gly Tyr Met Glu Trp Ile Ser Lys Ala Glu
385 390 395 400

Glu Val Ile Leu Ala Glu Asp Glu Thr Asp Gly Glu Gln Arg His Pro
405 410 415

Phe Asp Gly Ala Leu Arg Arg Thr Thr Ile Lys Lys Ser Lys Thr Asp
420 425 430

Leu Leu Asn Pro Glu Glu Ala Glu Asp Gln Leu Ala Asp Ile Ala Ser
435 440 445

Val Gly Ser Pro Phe Ala Arg Ala Ser Ile Lys Ser Ala Lys Leu Glu
450 455 460

Asn Ser Thr Phe Phe His Lys Lys Glu Arg Arg Met Arg Phe Tyr Ile
465 470 475 480

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Arg Arg Met Val Lys Thr Gln Ala Phe Tyr Trp Thr Val Leu Ser Leu
485 490 495

Val Ala Leu Asn Thr Leu Cys Val Ala Ile Val His Tyr Asn Gln Pro
500 505 510

Glu Trp Leu Ser Asp Phe Leu Tyr Tyr Ala Glu Phe Ile Phe Leu Gly
515 520 525

Leu Phe Met Ser Glu Met Phe Ile Lys Met Tyr Gly Leu Gly Thr Arg
530 535 540

Pro Tyr Phe His Ser Ser Phe Asn Cys Phe Asp Cys Gly Val Ile Ile
545 550 555 560

Gly Ser Ile Phe Glu Val Ile Trp Ala Val Ile Lys Pro Gly Thr Ser
565 570 575

Phe Gly Ile Ser Val Leu Arg Ala Leu Arg Leu Leu Arg Ile Phe Lys
580 585 590

Val Thr Lys Tyr Trp Ala Ser Leu Arg Asn Leu Val Val Ser Leu Leu
595 600 605

Asn Ser Met Lys Ser Ile Ile Ser Leu Leu Phe Leu Leu Phe Leu Phe
610 615 620

Ile Val Val Phe Ala Leu Leu Gly Met Gln Leu Phe Gly Gly Gln Phe
625 630 635 640

Asn Phe Asp Glu Gly Thr Pro Pro Thr Asn Phe Asp Thr Phe Pro Ala
645 650 655

Ala Ile Met Thr Val Phe Gln Ile Leu Thr Gly Glu Asp Trp Asn Glu
660 665 670

Val Met Tyr Asp Gly Ile Lys Ser Gln Gly Gly Val Gln Gly Gly Met
675 680 685

Val Phe Ser Ile Tyr Phe Ile Val Leu Thr Leu Phe Gly Asn Tyr Thr
690 695 700

Leu Leu Asn Val Phe Leu Ala Ile Ala Val Asp Asn Leu Ala Asn Ala
705 710 715 720

Gln Glu Leu Thr Lys Asp Glu Gln Glu Glu Glu Glu Ala Ala Asn Gln
725 730 735

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Lys Leu Ala Leu Gln Lys Ala Lys Glu Val Ala Glu Val Ser Pro Leu
740 745 750

Ser Ala Ala Asn Met Ser Ile Ala Val Lys Glu Gln Gln Lys Asn Gln
755 760 765

Lys Pro Ala Lys Ser Val Trp Glu Gln Arg Thr Ser Glu Met Arg Lys
770 775 780

Gln Asn Leu Leu Ala Ser Arg Glu Ala Leu Tyr Asn Glu Met Asp Pro
785 790 795 800

Asp Glu Arg Trp Lys Ala Ala Tyr Thr Arg His Leu Arg Pro Asp Met
805 810 815

Lys Thr His Leu Asp Arg Pro Leu Val Val Asp Pro Gln Glu Asn Arg
820 825 830

Asn Asn Asn Thr Asn Lys Ser Arg Ala Ala Glu Pro Thr Val Asp Gln
835 840 845

Arg Leu Gly Gln Gln Arg Ala Glu Asp Phe Leu Arg Lys Gln Ala Arg
850 855 860

Tyr His Asp Arg Ala Arg Asp Pro Ser Gly Ser Ala Gly Leu Asp Ala
865 870 875 880

Arg Arg Pro Trp Ala Gly Ser Gln Glu Ala Glu Leu Ser Arg Glu Gly
885 890 895

Pro Tyr Gly Arg Glu Ser Asp His His Ala Arg Glu Gly Ser Leu Glu
900 905 910

Gln Pro Gly Phe Trp Glu Gly Glu Ala Glu Arg Gly Lys Ala Gly Asp
915 920 925

Pro His Arg Arg His Val His Arg Gln Gly Gly Ser Arg Glu Ser Arg
930 935 940

Ser Gly Ser Pro Arg Thr Gly Ala Asp Gly Glu His Arg Arg His Arg
945 950 955 960

Ala His Arg Arg Pro Gly Glu Gly Pro Glu Asp Lys Ala Glu Arg
965 970 975

Arg Ala Arg His Arg Glu Gly Ser Arg Pro Ala Arg Gly Glu Gly
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980

985

990

Glu Gly Glu Gly Pro Asp Gly Gly Glu Arg Arg Arg Arg His Arg His
 995 1000 1005

Gly Ala Pro Ala Thr Tyr Glu Gly Asp Ala Arg Arg Glu Asp Lys
 1010 1015 1020

Glu Arg Arg His Arg Arg Arg Lys Glu Asn Gln Gly Ser Gly Val
 1025 1030 1035

Pro Val Ser Gly Pro Asn Leu Ser Thr Thr Arg Pro Ile Gln Gln
 1040 1045 1050

Asp Leu Gly Arg Gln Asp Pro Pro Leu Ala Glu Asp Ile Asp Asn
 1055 1060 1065

Met Lys Asn Asn Lys Leu Ala Thr Ala Glu Ser Ala Ala Pro His
 1070 1075 1080

Gly Ser Leu Gly His Ala Gly Leu Pro Gln Ser Pro Ala Lys Met
 1085 1090 1095

Gly Asn Ser Thr Asp Pro Gly Pro Met Leu Ala Ile Pro Ala Met
 1100 1105 1110

Ala Thr Asn Pro Gln Asn Ala Ala Ser Arg Arg Thr Pro Asn Asn
 1115 1120 1125

Pro Gly Asn Pro Ser Asn Pro Gly Pro Pro Lys Thr Pro Glu Asn
 1130 1135 1140

Ser Leu Ile Val Thr Asn Pro Ser Gly Thr Gln Thr Asn Ser Ala
 1145 1150 1155

Lys Thr Ala Arg Lys Pro Asp His Thr Thr Val Asp Ile Pro Pro
 1160 1165 1170

Ala Cys Pro Pro Pro Leu Asn His Thr Val Val Gln Val Asn Lys
 1175 1180 1185

Asn Ala Asn Pro Asp Pro Leu Pro Lys Lys Glu Glu Glu Lys Lys
 1190 1195 1200

Glu Glu Glu Glu Asp Asp Arg Gly Glu Asp Gly Pro Lys Pro Met
 1205 1210 1215

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Pro Pro Tyr Ser Ser Met Phe Ile Leu Ser Thr Thr Asn Pro Leu
 1220 1225 1230

Arg Arg Leu Cys His Tyr Ile Leu Asn Leu Arg Tyr Phe Glu Met
 1235 1240 1245

Cys Ile Leu Met Val Ile Ala Met Ser Ser Ile Ala Leu Ala Ala
 1250 1255 1260

Glu Asp Pro Val Gln Pro Asn Ala Pro Arg Asn Asn Val Leu Arg
 1265 1270 1275

Tyr Phe Asp Tyr Val Phe Thr Gly Val Phe Thr Phe Glu Met Val
 1280 1285 1290

Ile Lys Met Ile Asp Leu Gly Leu Val Leu His Gln Gly Ala Tyr
 1295 1300 1305

Phe Arg Asp Leu Trp Asn Ile Leu Asp Phe Ile Val Val Ser Gly
 1310 1315 1320

Ala Leu Val Ala Phe Ala Phe Thr Gly Asn Ser Lys Gly Lys Asp
 1325 1330 1335

Ile Asn Thr Ile Lys Ser Leu Arg Val Leu Arg Val Leu Arg Pro
 1340 1345 1350

Leu Lys Thr Ile Lys Arg Leu Pro Lys Leu Lys Ala Val Phe Asp
 1355 1360 1365

Cys Val Val Asn Ser Leu Lys Asn Val Phe Asn Ile Leu Ile Val
 1370 1375 1380

Tyr Met Leu Phe Met Phe Ile Phe Ala Val Val Ala Val Gln Leu
 1385 1390 1395

Phe Lys Gly Lys Phe Phe His Cys Thr Asp Glu Ser Lys Glu Phe
 1400 1405 1410

Glu Lys Asp Cys Arg Gly Lys Tyr Leu Leu Tyr Glu Lys Asn Glu
 1415 1420 1425

Val Lys Ala Arg Asp Arg Glu Trp Lys Lys Tyr Glu Phe His Tyr
 1430 1435 1440

Asp Asn Val Leu Trp Ala Leu Leu Thr Leu Phe Thr Val Ser Thr
 1445 1450 1455

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Gly Glu Gly Trp Pro Gln Val Leu Lys His Ser Val Asp Ala Thr
1460 1465 1470

Phe Glu Asn Gln Gly Pro Ser Pro Gly Tyr Arg Met Glu Met Ser
1475 1480 1485

Ile Phe Tyr Val Val Tyr Phe Val Val Phe Pro Phe Phe Val
1490 1495 1500

Asn Ile Phe Val Ala Leu Ile Ile Thr Phe Gln Glu Gln Gly
1505 1510 1515

Asp Lys Met Met Glu Glu Tyr Ser Leu Glu Lys Asn Glu Arg Ala
1520 1525 1530

Cys Ile Asp Phe Ala Ile Ser Ala Lys Pro Leu Thr Arg His Met
1535 1540 1545

Pro Gln Asn Lys Gln Ser Phe Gln Tyr Arg Met Trp Gln Phe Val
1550 1555 1560

Val Ser Pro Pro Phe Glu Tyr Thr Ile Met Ala Met Ile Ala Leu
1565 1570 1575

Asn Thr Ile Val Leu Met Met Lys Phe Tyr Gly Ala Ser Val Ala
1580 1585 1590

Tyr Glu Asn Ala Leu Arg Val Phe Asn Ile Val Phe Thr Ser Leu
1595 1600 1605

Phe Ser Leu Glu Cys Val Leu Lys Val Met Ala Phe Gly Ile Leu
1610 1615 1620

Asn Tyr Phe Arg Asp Ala Trp Asn Ile Phe Asp Phe Val Thr Val
1625 1630 1635

Leu Gly Ser Ile Thr Asp Ile Leu Val Thr Glu Phe Gly Asn Asn
1640 1645 1650

Phe Ile Asn Leu Ser Phe Leu Arg Leu Phe Arg Ala Ala Arg Leu
1655 1660 1665

Ile Lys Leu Leu Arg Gln Gly Tyr Thr Ile Arg Ile Leu Leu Trp
1670 1675 1680

Thr Phe Val Gln Ser Phe Lys Ala Leu Pro Tyr Val Cys Leu Leu
1685 1690 1695

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Ile Ala Met Leu Phe Phe Ile Tyr Ala Ile Ile Gly Met Gln Val
1700 1705 1710

Phe Gly Asn Ile Gly Ile Asp Val Glu Asp Glu Asp Ser Asp Glu
1715 1720 1725

Asp Glu Phe Gln Ile Thr Glu His Asn Asn Phe Arg Thr Phe Phe
1730 1735 1740

Gln Ala Leu Met Leu Leu Phe Arg Ser Ala Thr Gly Glu Ala Trp
1745 1750 1755

His Asn Ile Met Leu Ser Cys Leu Ser Gly Lys Pro Cys Asp Lys
1760 1765 1770

Asn Ser Gly Ile Leu Thr Arg Glu Cys Gly Asn Glu Phe Ala Tyr
1775 1780 1785

Phe Tyr Phe Val Ser Phe Ile Phe Leu Cys Ser Phe Leu Met Leu
1790 1795 1800

Asn Leu Phe Val Ala Val Ile Met Asp Asn Phe Glu Tyr Leu Thr
1805 1810 1815

Arg Asp Ser Ser Ile Leu Gly Pro His His Leu Asp Glu Tyr Val
1820 1825 1830

Arg Val Trp Ala Glu Tyr Asp Pro Ala Ala Cys Gly Arg Ile His
1835 1840 1845

Tyr Lys Asp Met Tyr Ser Leu Leu Arg Val Ile Ser Pro Pro Leu
1850 1855 1860

Gly Leu Gly Lys Lys Cys Pro His Arg Val Ala Cys Lys Arg Leu
1865 1870 1875

Leu Arg Met Asp Leu Pro Val Ala Asp Asp Asn Thr Val His Phe
1880 1885 1890

Asn Ser Thr Leu Met Ala Leu Ile Arg Thr Ala Leu Asp Ile Lys
1895 1900 1905

Ile Ala Lys Gly Gly Ala Asp Lys Gln Gln Met Asp Ala Glu Leu
1910 1915 1920

Arg Lys Glu Met Met Ala Ile Trp Pro Asn Leu Ser Gln Lys Thr
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1925 1930 1935

Leu Asp Leu Leu Val Thr Pro His Lys Ser Thr Asp Leu Thr Val
1940 1945 1950

Gly Lys Ile Tyr Ala Ala Met Met Ile Met Glu Tyr Tyr Arg Gln
1955 1960 1965

Ser Lys Ala Lys Lys Leu Gln Ala Met Arg Glu Glu Gln Asp Arg
1970 1975 1980

Thr Pro Leu Met Phe Gln Arg Met Glu Pro Pro Ser Pro Thr Gln
1985 1990 1995

Glu Gly Gly Pro Gly Gln Asn Ala Leu Pro Ser Thr Gln Leu Asp
2000 2005 2010

Pro Gly Gly Ala Leu Met Ala His Glu Ser Gly Leu Lys Glu Ser
2015 2020 2025

Pro Ser Trp Val Thr Gln Arg Ala Gln Glu Met Phe Gln Lys Thr
2030 2035 2040

Gly Thr Trp Ser Pro Glu Gln Gly Pro Pro Thr Asp Met Pro Asn
2045 2050 2055

Ser Gln Pro Asn Ser Gln Ser Val Glu Met Arg Glu Met Gly Arg
2060 2065 2070

Asp Gly Tyr Ser Asp Ser Glu His Tyr Leu Pro Met Glu Gly Gln
2075 2080 2085

Gly Arg Ala Ala Ser Met Pro Arg Leu Pro Ala Glu Asn Gln Arg
2090 2095 2100

Arg Arg Gly Arg Pro Arg Gly Asn Asn Leu Ser Thr Ile Ser Asp
2105 2110 2115

Thr Ser Pro Met Lys Arg Ser Ala Ser Val Leu Gly Pro Lys Ala
2120 2125 2130

Arg Arg Leu Asp Asp Tyr Ser Leu Glu Arg Val Pro Pro Glu Glu
2135 2140 2145

Asn Gln Arg His His Gln Arg Arg Arg Asp Arg Ser His Arg Ala
2150 2155 2160

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Ser Glu Arg Ser Leu Gly Arg Tyr Thr Asp Val Asp Thr Gly Leu
2165 2170 2175

Gly Thr Asp Leu Ser Met Thr Thr Gln Ser Gly Asp Leu Pro Ser
2180 2185 2190

Lys Glu Arg Asp Gln Glu Arg Gly Arg Pro Lys Asp Arg Lys His
2195 2200 2205

Arg Gln His His His His His His His His Pro Pro Pro
2210 2215 2220

Pro Asp Lys Asp Arg Tyr Ala Gln Glu Arg Pro Asp His Gly Arg
2225 2230 2235

Ala Arg Ala Arg Asp Gln Arg Trp Ser Arg Ser Pro Ser Glu Gly
2240 2245 2250

Arg Glu His Met Ala His Arg Gln
2255 2260

<210> 11
<211> 2505
<212> PRT
<213> Homo sapiens

<400> 11

Met Ala Arg Phe Gly Asp Glu Met Pro Ala Arg Tyr Gly Gly Gly
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Ser Gly Ala Ala Ala Gly Val Val Val Gly Ser Gly Gly Arg Gly
20 25 30

Ala Gly Gly Ser Arg Gln Gly Gly Gln Pro Gly Ala Gln Arg Met Tyr
35 40 45

Lys Gln Ser Met Ala Gln Arg Ala Arg Thr Met Ala Leu Tyr Asn Pro
50 55 60

Ile Pro Val Arg Gln Asn Cys Leu Thr Val Asn Arg Ser Leu Phe Leu
65 70 75 80

Phe Ser Glu Asp Asn Val Val Arg Lys Tyr Ala Lys Lys Ile Thr Glu
85 90 95

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Trp Pro Pro Phe Glu Tyr Met Ile Leu Ala Thr Ile Ile Ala Asn Cys
100 105 110

Ile Val Leu Ala Leu Glu Gln His Leu Pro Asp Asp Asp Lys Thr Pro
115 120 125

Met Ser Glu Arg Leu Asp Asp Thr Glu Pro Tyr Phe Ile Gly Ile Phe
130 135 140

Cys Phe Glu Ala Gly Ile Lys Ile Ile Ala Leu Gly Phe Ala Phe His
145 150 155 160

Lys Gly Ser Tyr Leu Arg Asn Gly Trp Asn Val Met Asp Phe Val Val
165 170 175

Val Leu Thr Gly Ile Leu Ala Thr Val Gly Thr Glu Phe Asp Leu Arg
180 185 190

Thr Leu Arg Ala Val Arg Val Leu Arg Pro Leu Lys Leu Val Ser Gly
195 200 205

Ile Pro Ser Leu Gln Val Val Leu Lys Ser Ile Met Lys Ala Met Ile
210 215 220

Pro Leu Leu Gln Ile Gly Leu Leu Leu Phe Phe Ala Ile Leu Ile Phe
225 230 235 240

Ala Ile Ile Gly Leu Glu Phe Tyr Met Gly Lys Phe His Thr Thr Cys
245 250 255

Phe Glu Glu Gly Thr Asp Asp Ile Gln Gly Glu Ser Pro Ala Pro Cys
260 265 270

Gly Thr Glu Glu Pro Ala Arg Thr Cys Pro Asn Gly Thr Lys Cys Gln
275 280 285

Pro Tyr Trp Glu Gly Pro Asn Asn Gly Ile Thr Gln Phe Asp Asn Ile
290 295 300

Leu Phe Ala Val Leu Thr Val Phe Gln Cys Ile Thr Met Glu Gly Trp
305 310 315 320

Thr Asp Leu Leu Tyr Asn Ser Asn Asp Ala Ser Gly Asn Thr Trp Asn
325 330 335

Trp Leu Tyr Phe Ile Pro Leu Ile Ile Ile Gly Ser Phe Phe Met Leu
340 345 350

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Asn Leu Val Leu Gly Val Leu Ser Gly Glu Phe Ala Lys Glu Arg Glu
355 360 365

Arg Val Glu Asn Arg Arg Ala Phe Leu Lys Leu Arg Arg Gln Gln Gln
370 375 380

Ile Glu Arg Glu Leu Asn Gly Tyr Met Glu Trp Ile Ser Lys Ala Glu
385 390 395 400

Glu Val Ile Leu Ala Glu Asp Glu Thr Asp Gly Glu Gln Arg His Pro
405 410 415

Phe Asp Gly Ala Leu Arg Arg Thr Thr Ile Lys Lys Ser Lys Thr Asp
420 425 430

Leu Leu Asn Pro Glu Glu Ala Glu Asp Gln Leu Ala Asp Ile Ala Ser
435 440 445

Val Gly Ser Pro Phe Ala Arg Ala Ser Ile Lys Ser Ala Lys Leu Glu
450 455 460

Asn Ser Thr Phe Phe His Lys Lys Glu Arg Arg Met Arg Phe Tyr Ile
465 470 475 480

Arg Arg Met Val Lys Thr Gln Ala Phe Tyr Trp Thr Val Leu Ser Leu
485 490 495

Val Ala Leu Asn Thr Leu Cys Val Ala Ile Val His Tyr Asn Gln Pro
500 505 510

Glu Trp Leu Ser Asp Phe Leu Tyr Tyr Ala Glu Phe Ile Phe Leu Gly
515 520 525

Leu Phe Met Ser Glu Met Phe Ile Lys Met Tyr Gly Leu Gly Thr Arg
530 535 540

Pro Tyr Phe His Ser Ser Phe Asn Cys Phe Asp Cys Gly Val Ile Ile
545 550 555 560

Gly Ser Ile Phe Glu Val Ile Trp Ala Val Ile Lys Pro Gly Thr Ser
565 570 575

Phe Gly Ile Ser Val Leu Arg Ala Leu Arg Leu Leu Arg Ile Phe Lys
580 585 590

Val Thr Lys Tyr Trp Ala Ser Leu Arg Asn Leu Val Val Ser Leu Leu
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595

600

605

Asn Ser Met Lys Ser Ile Ile Ser Leu Leu Phe Leu Leu Phe Leu Phe
 610 615 620

Ile Val Val Phe Ala Leu Leu Gly Met Gln Leu Phe Gly Gly Gln Phe
 625 630 635 640

Asn Phe Asp Glu Gly Thr Pro Pro Thr Asn Phe Asp Thr Phe Pro Ala
 645 650 655

Ala Ile Met Thr Val Phe Gln Ile Leu Thr Gly Glu Asp Trp Asn Glu
 660 665 670

Val Met Tyr Asp Gly Ile Lys Ser Gln Gly Gly Val Gln Gly Gly Met
 675 680 685

Val Phe Ser Ile Tyr Phe Ile Val Leu Thr Leu Phe Gly Asn Tyr Thr
 690 695 700

Leu Leu Asn Val Phe Leu Ala Ile Ala Val Asp Asn Leu Ala Asn Ala
 705 710 715 720

Gln Glu Leu Thr Lys Asp Glu Gln Glu Glu Glu Ala Ala Asn Gln
 725 730 735

Lys Leu Ala Leu Gln Lys Ala Lys Glu Val Ala Glu Val Ser Pro Leu
 740 745 750

Ser Ala Ala Asn Met Ser Ile Ala Val Lys Glu Gln Gln Lys Asn Gln
 755 760 765

Lys Pro Ala Lys Ser Val Trp Glu Gln Arg Thr Ser Glu Met Arg Lys
 770 775 780

Gln Asn Leu Leu Ala Ser Arg Glu Ala Leu Tyr Asn Glu Met Asp Pro
 785 790 795 800

Asp Glu Arg Trp Lys Ala Ala Tyr Thr Arg His Leu Arg Pro Asp Met
 805 810 815

Lys Thr His Leu Asp Arg Pro Leu Val Val Asp Pro Gln Glu Asn Arg
 820 825 830

Asn Asn Asn Thr Asn Lys Ser Arg Ala Ala Glu Pro Thr Val Asp Gln
 835 840 845

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Arg Leu Gly Gln Gln Arg Ala Glu Asp Phe Leu Arg Lys Gln Ala Arg
850 855 860

Tyr His Asp Arg Ala Arg Asp Pro Ser Gly Ser Ala Gly Leu Asp Ala
865 870 875 880

Arg Arg Pro Trp Ala Gly Ser Gln Glu Ala Glu Leu Ser Arg Glu Gly
885 890 895

Pro Tyr Gly Arg Glu Ser Asp His His Ala Arg Glu Gly Ser Leu Glu
900 905 910

Gln Pro Gly Phe Trp Glu Gly Glu Ala Glu Arg Gly Lys Ala Gly Asp
915 920 925

Pro His Arg Arg His Val His Arg Gln Gly Gly Ser Arg Glu Ser Arg
930 935 940

Ser Gly Ser Pro Arg Thr Gly Ala Asp Gly Glu His Arg Arg His Arg
945 950 955 960

Ala His Arg Arg Pro Gly Glu Glu Gly Pro Glu Asp Lys Ala Glu Arg
965 970 975

Arg Ala Arg His Arg Glu Gly Ser Arg Pro Ala Arg Gly Glu Gly
980 985 990

Glu Gly Glu Gly Pro Asp Gly Gly Glu Arg Arg Arg Arg His Arg His
995 1000 1005

Gly Ala Pro Ala Thr Tyr Glu Gly Asp Ala Arg Arg Glu Asp Lys
1010 1015 1020

Glu Arg Arg His Arg Arg Arg Lys Glu Asn Gln Gly Ser Gly Val
1025 1030 1035

Pro Val Ser Gly Pro Asn Leu Ser Thr Thr Arg Pro Ile Gln Gln
1040 1045 1050

Asp Leu Gly Arg Gln Asp Pro Pro Leu Ala Glu Asp Ile Asp Asn
1055 1060 1065

Met Lys Asn Asn Lys Leu Ala Thr Ala Glu Ser Ala Ala Pro His
1070 1075 1080

Gly Ser Leu Gly His Ala Gly Leu Pro Gln Ser Pro Ala Lys Met
1085 1090 1095

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Gly Asn Ser Thr Asp Pro Gly Pro Met Leu Ala Ile Pro Ala Met
1100 1105 1110

Ala Thr Asn Pro Gln Asn Ala Ala Ser Arg Arg Thr Pro Asn Asn
1115 1120 1125

Pro Gly Asn Pro Ser Asn Pro Gly Pro Pro Lys Thr Pro Glu Asn
1130 1135 1140

Ser Leu Ile Val Thr Asn Pro Ser Gly Thr Gln Thr Asn Ser Ala
1145 1150 1155

Lys Thr Ala Arg Lys Pro Asp His Thr Thr Val Asp Ile Pro Pro
1160 1165 1170

Ala Cys Pro Pro Pro Leu Asn His Thr Val Val Gln Val Asn Lys
1175 1180 1185

Asn Ala Asn Pro Asp Pro Leu Pro Lys Lys Glu Glu Glu Lys Lys
1190 1195 1200

Glu Glu Glu Glu Asp Asp Arg Gly Glu Asp Gly Pro Lys Pro Met
1205 1210 1215

Pro Pro Tyr Ser Ser Met Phe Ile Leu Ser Thr Thr Asn Pro Leu
1220 1225 1230

Arg Arg Leu Cys His Tyr Ile Leu Asn Leu Arg Tyr Phe Glu Met
1235 1240 1245

Cys Ile Leu Met Val Ile Ala Met Ser Ser Ile Ala Leu Ala Ala
1250 1255 1260

Glu Asp Pro Val Gln Pro Asn Ala Pro Arg Asn Asn Val Leu Arg
1265 1270 1275

Tyr Phe Asp Tyr Val Phe Thr Gly Val Phe Thr Phe Glu Met Val
1280 1285 1290

Ile Lys Met Ile Asp Leu Gly Leu Val Leu His Gln Gly Ala Tyr
1295 1300 1305

Phe Arg Asp Leu Trp Asn Ile Leu Asp Phe Ile Val Val Ser Gly
1310 1315 1320

Ala Leu Val Ala Phe Ala Phe Thr Gly Asn Ser Lys Gly Lys Asp
1325 1330 1335

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Ile Asn Thr Ile Lys Ser Leu Arg Val Leu Arg Val Leu Arg Pro
1340 1345 1350

Leu Lys Thr Ile Lys Arg Leu Pro Lys Leu Lys Ala Val Phe Asp
1355 1360 1365

Cys Val Val Asn Ser Leu Lys Asn Val Phe Asn Ile Leu Ile Val
1370 1375 1380

Tyr Met Leu Phe Met Phe Ile Phe Ala Val Val Ala Val Gln Leu
1385 1390 1395

Phe Lys Gly Lys Phe Phe His Cys Thr Asp Glu Ser Lys Glu Phe
1400 1405 1410

Glu Lys Asp Cys Arg Gly Lys Tyr Leu Leu Tyr Glu Lys Asn Glu
1415 1420 1425

Val Lys Ala Arg Asp Arg Glu Trp Lys Lys Tyr Glu Phe His Tyr
1430 1435 1440

Asp Asn Val Leu Trp Ala Leu Leu Thr Leu Phe Thr Val Ser Thr
1445 1450 1455

Gly Glu Gly Trp Pro Gln Val Leu Lys His Ser Val Asp Ala Thr
1460 1465 1470

Phe Glu Asn Gln Gly Pro Ser Pro Gly Tyr Arg Met Glu Met Ser
1475 1480 1485

Ile Phe Tyr Val Val Tyr Phe Val Val Phe Pro Phe Phe Val
1490 1495 1500

Asn Ile Phe Val Ala Leu Ile Ile Ile Thr Phe Gln Glu Gln Gly
1505 1510 1515

Asp Lys Met Met Glu Glu Tyr Ser Leu Glu Lys Asn Glu Arg Ala
1520 1525 1530

Cys Ile Asp Phe Ala Ile Ser Ala Lys Pro Leu Thr Arg His Met
1535 1540 1545

Pro Gln Asn Lys Gln Ser Phe Gln Tyr Arg Met Trp Gln Phe Val
1550 1555 1560

Val Ser Pro Pro Phe Glu Tyr Thr Ile Met Ala Met Ile Ala Leu
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1565

1570

1575

Asn Thr Ile Val Leu Met Met Lys Phe Tyr Gly Ala Ser Val Ala
 1580 1585 1590

Tyr Glu Asn Ala Leu Arg Val Phe Asn Ile Val Phe Thr Ser Leu
 1595 1600 1605

Phe Ser Leu Glu Cys Val Leu Lys Val Met Ala Phe Gly Ile Leu
 1610 1615 1620

Asn Tyr Phe Arg Asp Ala Trp Asn Ile Phe Asp Phe Val Thr Val
 1625 1630 1635

Leu Gly Ser Ile Thr Asp Ile Leu Val Thr Glu Phe Gly Asn Asn
 1640 1645 1650

Phe Ile Asn Leu Ser Phe Leu Arg Leu Phe Arg Ala Ala Arg Leu
 1655 1660 1665

Ile Lys Leu Leu Arg Gln Gly Tyr Thr Ile Arg Ile Leu Leu Trp
 1670 1675 1680

Thr Phe Val Gln Ser Phe Lys Ala Leu Pro Tyr Val Cys Leu Leu
 1685 1690 1695

Ile Ala Met Leu Phe Phe Ile Tyr Ala Ile Ile Gly Met Gln Val
 1700 1705 1710

Phe Gly Asn Ile Gly Ile Asp Val Glu Asp Glu Asp Ser Asp Glu
 1715 1720 1725

Asp Glu Phe Gln Ile Thr Glu His Asn Asn Phe Arg Thr Phe Phe
 1730 1735 1740

Gln Ala Leu Met Leu Leu Phe Arg Ser Ala Thr Gly Glu Ala Trp
 1745 1750 1755

His Asn Ile Met Leu Ser Cys Leu Ser Gly Lys Pro Cys Asp Lys
 1760 1765 1770

Asn Ser Gly Ile Leu Thr Arg Glu Cys Gly Asn Glu Phe Ala Tyr
 1775 1780 1785

Phe Tyr Phe Val Ser Phe Ile Phe Leu Cys Ser Phe Leu Met Leu
 1790 1795 1800

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Asn Leu Phe Val Ala Val Ile Met Asp Asn Phe Glu Tyr Leu Thr
 1805 1810 1815

Arg Asp Ser Ser Ile Leu Gly Pro His His Leu Asp Glu Tyr Val
 1820 1825 1830

Arg Val Trp Ala Glu Tyr Asp Pro Ala Ala Cys Gly Arg Ile His
 1835 1840 1845

Tyr Lys Asp Met Tyr Ser Leu Leu Arg Val Ile Ser Pro Pro Leu
 1850 1855 1860

Gly Leu Gly Lys Lys Cys Pro His Arg Val Ala Cys Lys Arg Leu
 1865 1870 1875

Leu Arg Met Asp Leu Pro Val Ala Asp Asp Asn Thr Val His Phe
 1880 1885 1890

Asn Ser Thr Leu Met Ala Leu Ile Arg Thr Ala Leu Asp Ile Lys
 1895 1900 1905

Ile Ala Lys Gly Gly Ala Asp Lys Gln Gln Met Asp Ala Glu Leu
 1910 1915 1920

Arg Lys Glu Met Met Ala Ile Trp Pro Asn Leu Ser Gln Lys Thr
 1925 1930 1935

Leu Asp Leu Leu Val Thr Pro His Lys Ser Thr Asp Leu Thr Val
 1940 1945 1950

Gly Lys Ile Tyr Ala Ala Met Met Ile Met Glu Tyr Tyr Arg Gln
 1955 1960 1965

Ser Lys Ala Lys Lys Leu Gln Ala Met Arg Glu Glu Gln Asp Arg
 1970 1975 1980

Thr Pro Leu Met Phe Gln Arg Met Glu Pro Pro Ser Pro Thr Gln
 1985 1990 1995

Glu Gly Gly Pro Gly Gln Asn Ala Leu Pro Ser Thr Gln Leu Asp
 2000 2005 2010

Pro Gly Gly Ala Leu Met Ala His Glu Ser Gly Leu Lys Glu Ser
 2015 2020 2025

Pro Ser Trp Val Thr Gln Arg Ala Gln Glu Met Phe Gln Lys Thr
 2030 2035 2040

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Gly Thr Trp Ser Pro Glu Gln Gly Pro Pro Thr Asp Met Pro Asn
2045 2050 2055

Ser Gln Pro Asn Ser Gln Ser Val Glu Met Arg Glu Met Gly Arg
2060 2065 2070

Asp Gly Tyr Ser Asp Ser Glu His Tyr Leu Pro Met Glu Gly Gln
2075 2080 2085

Gly Arg Ala Ala Ser Met Pro Arg Leu Pro Ala Glu Asn Gln Arg
2090 2095 2100

Arg Arg Gly Arg Pro Arg Gly Asn Asn Leu Ser Thr Ile Ser Asp
2105 2110 2115

Thr Ser Pro Met Lys Arg Ser Ala Ser Val Leu Gly Pro Lys Ala
2120 2125 2130

Arg Arg Leu Asp Asp Tyr Ser Leu Glu Arg Val Pro Pro Glu Glu
2135 2140 2145

Asn Gln Arg His His Gln Arg Arg Arg Asp Arg Ser His Arg Ala
2150 2155 2160

Ser Glu Arg Ser Leu Gly Arg Tyr Thr Asp Val Asp Thr Gly Leu
2165 2170 2175

Gly Thr Asp Leu Ser Met Thr Thr Gln Ser Gly Asp Leu Pro Ser
2180 2185 2190

Lys Glu Arg Asp Gln Glu Arg Gly Arg Pro Lys Asp Arg Lys His
2195 2200 2205

Arg Gln His His His His His His His His Pro Pro Pro
2210 2215 2220

Pro Asp Lys Asp Arg Tyr Ala Gln Glu Arg Pro Asp His Gly Arg
2225 2230 2235

Ala Arg Ala Arg Asp Gln Arg Trp Ser Arg Ser Pro Ser Glu Gly
2240 2245 2250

Arg Glu His Met Ala His Arg Gln Gly Ser Ser Ser Val Ser Gly
2255 2260 2265

Ser Pro Ala Pro Ser Thr Ser Gly Thr Ser Thr Pro Arg Arg Gly
2270 2275 2280

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Arg Arg Gln Leu Pro Gln Thr Pro Ser Thr Pro Arg Pro His Val
2285 2290 2295

Ser Tyr Ser Pro Val Ile Arg Lys Ala Gly Gly Ser Gly Pro Pro
2300 2305 2310

Gln Gln Gln Gln Gln Gln Gln Gln Gln Ala Val Ala Arg
2315 2320 2325

Pro Gly Arg Ala Ala Thr Ser Gly Pro Arg Arg Tyr Pro Gly Pro
2330 2335 2340

Thr Ala Glu Pro Leu Ala Gly Asp Arg Pro Pro Thr Gly Gly His
2345 2350 2355

Ser Ser Gly Arg Ser Pro Arg Met Glu Arg Arg Val Pro Gly Pro
2360 2365 2370

Ala Arg Ser Glu Ser Pro Arg Ala Cys Arg His Gly Gly Ala Arg
2375 2380 2385

Trp Pro Ala Ser Gly Pro His Val Ser Glu Gly Pro Pro Gly Pro
2390 2395 2400

Arg His His Gly Tyr Tyr Arg Gly Ser Asp Tyr Asp Glu Ala Asp
2405 2410 2415

Gly Pro Gly Ser Gly Gly Glu Glu Ala Met Ala Gly Ala Tyr
2420 2425 2430

Asp Ala Pro Pro Pro Val Arg His Ala Ser Ser Gly Ala Thr Gly
2435 2440 2445

Arg Ser Pro Arg Thr Pro Arg Ala Ser Gly Pro Ala Cys Ala Ser
2450 2455 2460

Pro Ser Arg His Gly Arg Arg Leu Pro Asn Gly Tyr Tyr Pro Ala
2465 2470 2475

His Gly Leu Ala Arg Pro Arg Gly Pro Gly Ser Arg Lys Gly Leu
2480 2485 2490

His Glu Pro Tyr Ser Glu Ser Asp Asp Asp Trp Cys
2495 2500 2505

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<213> Homo sapiens

<400> 12

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Ser Gly Gln Ala Ala Ala Tyr Lys Gln Thr Lys Ala Gln Arg Ala Arg
35 40 45

Thr Met Ala Leu Tyr Asn Pro Ile Pro Val Arg Gln Asn Cys Phe Thr
50 55 60

Val Asn Arg Ser Leu Phe Ile Phe Gly Glu Asp Asn Ile Val Arg Lys
65 70 75 80

Tyr Ala Lys Lys Leu Ile Asp Trp Pro Pro Phe Glu Tyr Met Ile Leu
85 90 95

Ala Thr Ile Ile Ala Asn Cys Ile Val Leu Ala Leu Glu Gln His Leu
100 105 110

Pro Glu Asp Asp Lys Thr Pro Met Ser Arg Arg Leu Glu Lys Thr Glu
115 120 125

Pro Tyr Phe Ile Gly Ile Phe Cys Phe Glu Ala Gly Ile Lys Ile Val
130 135 140

Ala Leu Gly Phe Ile Phe His Lys Gly Ser Tyr Leu Arg Asn Gly Trp
145 150 155 160

Asn Val Met Asp Phe Ile Val Val Leu Ser Gly Ile Leu Ala Thr Ala
165 170 175

Gly Thr His Phe Asn Thr His Val Asp Leu Arg Thr Leu Arg Ala Val
180 185 190

Arg Val Leu Arg Pro Leu Lys Leu Val Ser Gly Ile Pro Ser Leu Gln
195 200 205

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Ile Val Leu Lys Ser Ile Met Lys Ala Met Val Pro Leu Leu Gln Ile
210 215 220

Gly Leu Leu Leu Phe Phe Ala Ile Leu Met Phe Ala Ile Ile Gly Leu
225 230 235 240

Glu Phe Tyr Ser Gly Lys Leu His Arg Ala Cys Phe Met Asn Asn Ser
245 250 255

Gly Ile Leu Glu Gly Phe Asp Pro Pro His Pro Cys Gly Val Gln Gly
260 265 270

Cys Pro Ala Gly Tyr Glu Cys Lys Asp Trp Ile Gly Pro Asn Asp Gly
275 280 285

Ile Thr Gln Phe Asp Asn Ile Leu Phe Ala Val Leu Thr Val Phe Gln
290 295 300

Cys Ile Thr Met Glu Gly Trp Thr Thr Val Leu Tyr Asn Thr Asn Asp
305 310 315 320

Ala Leu Gly Ala Thr Trp Asn Trp Leu Tyr Phe Ile Pro Leu Ile Ile
325 330 335

Ile Gly Ser Phe Phe Val Leu Asn Leu Val Leu Gly Val Leu Ser Gly
340 345 350

Glu Phe Ala Lys Glu Arg Glu Arg Val Glu Asn Arg Arg Ala Phe Met
355 360 365

Lys Leu Arg Arg Gln Gln Ile Glu Arg Glu Leu Asn Gly Tyr Arg
370 375 380

Ala Trp Ile Asp Lys Ala Glu Glu Val Met Leu Ala Glu Glu Asn Lys
385 390 395 400

Asn Ala Gly Thr Ser Ala Leu Glu Val Leu Arg Arg Ala Thr Ile Lys
405 410 415

Arg Ser Arg Thr Glu Ala Met Thr Arg Asp Ser Ser Asp Glu His Cys
420 425 430

Val Asp Ile Ser Ser Val Gly Thr Pro Leu Ala Arg Ala Ser Ile Lys
435 440 445

Ser Ala Lys Val Asp Gly Val Ser Tyr Phe Arg His Lys Glu Arg Leu
450 455 460

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Leu Arg Ile Ser Ile Arg His Met Val Lys Ser Gln Val Phe Tyr Trp
465 470 475 480

Ile Val Leu Ser Leu Val Ala Leu Asn Thr Ala Cys Val Ala Ile Val
485 490 495

His His Asn Gln Pro Gln Trp Leu Thr His Leu Leu Tyr Tyr Ala Glu
500 505 510

Phe Leu Phe Leu Gly Leu Phe Leu Leu Glu Met Ser Leu Lys Met Tyr
515 520 525

Gly Met Gly Pro Arg Leu Tyr Phe His Ser Ser Phe Asn Cys Phe Asp
530 535 540

Phe Gly Val Thr Val Gly Ser Ile Phe Glu Val Val Trp Ala Ile Phe
545 550 555 560

Arg Pro Gly Thr Ser Phe Gly Ile Ser Val Leu Arg Ala Leu Arg Leu
565 570 575

Leu Arg Ile Phe Lys Ile Thr Lys Tyr Trp Ala Ser Leu Arg Asn Leu
580 585 590

Val Val Ser Leu Met Ser Ser Met Lys Ser Ile Ile Ser Leu Leu Phe
595 600 605

Leu Leu Phe Leu Phe Ile Val Val Phe Ala Leu Leu Gly Met Gln Leu
610 615 620

Phe Gly Gly Arg Phe Asn Phe Asn Asp Gly Thr Pro Ser Ala Asn Phe
625 630 635 640

Asp Thr Phe Pro Ala Ala Ile Ile Thr Val Phe Gln Ile Leu Thr Gly
645 650 655

Glu Asp Trp Asn Glu Val Met Tyr Asn Gly Ile Arg Ser Gln Gly Gly
660 665 670

Val Ser Ser Gly Met Trp Ser Ala Ile Tyr Phe Ile Val Leu Thr Leu
675 680 685

Phe Gly Asn Tyr Thr Leu Leu Asn Val Phe Leu Ala Ile Ala Val Asp
690 695 700

Asn Leu Ala Asn Ala Gln Glu Leu Thr Lys Asp Glu Gln Glu Glu Glu
705 710 715 720

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Glu Ala Phe Asn Gln Lys His Ala Leu Gln Lys Ala Lys Glu Val Ser
725 730 735

Pro Met Ser Ala Pro Asn Met Pro Ser Ile Glu Arg Asp Arg Arg Arg
740 745 750

Arg His His Met Ser Met Trp Glu Pro Arg Ser Ser His Leu Arg Glu
755 760 765

Arg Arg Arg Arg His His Met Ser Val Trp Glu Gln Arg Thr Ser Gln
770 775 780

Leu Arg Lys His Met Gln Met Ser Ser Gln Glu Ala Leu Asn Arg Glu
785 790 795 800

Glu Ala Pro Thr Met Asn Pro Leu Asn Pro Leu Asn Pro Leu Ser Ser
805 810 815

Leu Asn Pro Leu Asn Ala His Pro Ser Leu Tyr Arg Arg Pro Arg Ala
820 825 830

Ile Glu Gly Trp Pro Gly Leu Ala Leu Glu Lys Phe Glu Glu Glu Arg
835 840 845

Ile Ser Arg Gly Gly Ser Leu Lys Gly Asp Gly Gly Asp Arg Ser Ser
850 855 860

Ala Leu Asp Asn Gln Arg Thr Pro Leu Ser Leu Gly Gln Arg Glu Pro
865 870 875 880

Pro Trp Leu Ala Arg Pro Cys His Gly Asn Cys Asp Pro Thr Gln Gln
885 890 895

Glu Ala Gly Gly Glu Ala Val Val Thr Phe Glu Asp Arg Ala Arg
900 905 910

His Arg Gln Ser Gln Arg Arg Ser Arg His Arg Arg Val Arg Thr Glu
915 920 925

Gly Lys Glu Ser Ser Ser Ala Ser Arg Ser Arg Ser Ala Ser Gln Glu
930 935 940

Arg Ser Leu Asp Glu Ala Met Pro Thr Glu Gly Glu Lys Asp His Glu
945 950 955 960

Leu Arg Gly Asn His Gly Ala Lys Glu Pro Thr Ile Gln Glu Glu Arg
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965

970

975

Ala Gln Asp Leu Arg Arg Thr Asn Ser Leu Met Val Ser Arg Gly Ser
980 985 990

Gly Leu Ala Gly Gly Leu Asp Glu Ala Asp Thr Pro Leu Val Leu Pro
995 1000 1005

His Pro Glu Leu Glu Val Gly Lys His Val Val Leu Thr Glu Gln
1010 1015 1020

Glu Pro Glu Gly Ser Ser Glu Gln Ala Leu Leu Gly Asn Val Gln
1025 1030 1035

Leu Asp Met Gly Arg Val Ile Ser Gln Ser Glu Pro Asp Leu Ser
1040 1045 1050

Cys Ile Thr Ala Asn Thr Asp Lys Ala Thr Thr Glu Ser Thr Ser
1055 1060 1065

Val Thr Val Ala Ile Pro Asp Val Asp Pro Leu Val Asp Ser Thr
1070 1075 1080

Val Val His Ile Ser Asn Lys Thr Asp Gly Glu Ala Ser Pro Leu
1085 1090 1095

Lys Glu Ala Glu Ile Arg Glu Asp Glu Glu Glu Val Glu Lys Lys
1100 1105 1110

Lys Gln Lys Lys Glu Lys Arg Glu Thr Gly Lys Ala Met Val Pro
1115 1120 1125

His Ser Ser Met Phe Ile Phe Ser Thr Thr Asn Pro Ile Arg Arg
1130 1135 1140

Ala Cys His Tyr Ile Val Asn Leu Arg Tyr Phe Glu Met Cys Ile
1145 1150 1155

Leu Leu Val Ile Ala Ala Ser Ser Ile Ala Leu Ala Ala Glu Asp
1160 1165 1170

Pro Val Leu Thr Asn Ser Glu Arg Asn Lys Val Leu Arg Tyr Phe
1175 1180 1185

Asp Tyr Val Phe Thr Gly Val Phe Thr Phe Glu Met Val Ile Lys
1190 1195 1200

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Met Ile Asp Gln Gly Leu Ile Leu Gln Asp Gly Ser Tyr Phe Arg
1205 1210 1215

Asp Leu Trp Asn Ile Leu Asp Phe Val Val Val Val Gly Ala Leu
1220 1225 1230

Val Ala Phe Ala Leu Ala Asn Ala Leu Gly Thr Asn Lys Gly Arg
1235 1240 1245

Asp Ile Lys Thr Ile Lys Ser Leu Arg Val Leu Arg Val Leu Arg
1250 1255 1260

Pro Leu Lys Thr Ile Lys Arg Leu Pro Lys Leu Lys Ala Val Phe
1265 1270 1275

Asp Cys Val Val Thr Ser Leu Lys Asn Val Phe Asn Ile Leu Ile
1280 1285 1290

Val Tyr Lys Leu Phe Met Phe Ile Phe Ala Val Ile Ala Val Gln
1295 1300 1305

Leu Phe Lys Gly Lys Phe Phe Tyr Cys Thr Asp Ser Ser Lys Asp
1310 1315 1320

Thr Glu Lys Glu Cys Ile Gly Asn Tyr Val Asp His Glu Lys Asn
1325 1330 1335

Lys Met Glu Val Lys Gly Arg Glu Trp Lys Arg His Glu Phe His
1340 1345 1350

Tyr Asp Asn Ile Ile Trp Ala Leu Leu Thr Leu Phe Thr Val Ser
1355 1360 1365

Thr Gly Glu Gly Trp Pro Gln Val Leu Gln His Ser Val Asp Val
1370 1375 1380

Thr Glu Glu Asp Arg Gly Pro Ser Arg Ser Asn Arg Met Glu Met
1385 1390 1395

Ser Ile Phe Tyr Val Val Tyr Phe Val Val Phe Pro Phe Phe Phe
1400 1405 1410

Val Asn Ile Phe Val Ala Leu Ile Ile Ile Thr Phe Gln Glu Gln
1415 1420 1425

Gly Asp Lys Met Met Glu Glu Cys Ser Leu Glu Lys Asn Glu Arg
1430 1435 1440

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Ala Cys Ile Asp Phe Ala Ile Ser Ala Lys Pro Leu Thr Arg Tyr
1445 1450 1455

Met Pro Gln Asn Arg His Thr Phe Gln Tyr Arg Val Trp His Phe
1460 1465 1470

Val Val Ser Pro Ser Phe Glu Tyr Thr Ile Met Ala Met Ile Ala
1475 1480 1485

Leu Asn Thr Val Val Leu Met Met Lys Tyr Tyr Ser Ala Pro Cys
1490 1495 1500

Thr Tyr Glu Leu Ala Leu Lys Tyr Leu Asn Ile Ala Phe Thr Met
1505 1510 1515

Val Phe Ser Leu Glu Cys Val Leu Lys Val Ile Ala Phe Gly Phe
1520 1525 1530

Leu Asn Tyr Phe Arg Asp Thr Trp Asn Ile Phe Asp Phe Ile Thr
1535 1540 1545

Val Ile Gly Ser Ile Thr Glu Ile Ile Leu Thr Asp Ser Lys Leu
1550 1555 1560

Val Asn Thr Ser Gly Phe Asn Met Ser Phe Leu Lys Leu Phe Arg
1565 1570 1575

Ala Ala Arg Leu Ile Lys Leu Leu Arg Gln Gly Tyr Thr Ile Arg
1580 1585 1590

Ile Leu Leu Trp Thr Phe Val Gln Ser Phe Lys Ala Leu Pro Tyr
1595 1600 1605

Val Cys Leu Leu Ile Ala Met Leu Phe Phe Ile Tyr Ala Ile Ile
1610 1615 1620

Gly Met Gln Val Phe Gly Asn Ile Lys Leu Asp Glu Glu Ser His
1625 1630 1635

Ile Asn Arg His Asn Asn Phe Arg Ser Phe Phe Gly Ser Leu Met
1640 1645 1650

Leu Leu Phe Arg Ser Ala Thr Gly Glu Ala Trp Gln Glu Ile Met
1655 1660 1665

Leu Ser Cys Leu Gly Glu Lys Gly Cys Glu Pro Asp Thr Thr Ala
1670 1675 1680

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Pro Ser Gly Gln Asn Glu Asn Glu Arg Cys Gly Thr Asp Leu Ala
1685 1690 1695

Tyr Val Tyr Phe Val Ser Phe Ile Phe Phe Cys Ser Phe Leu Met
1700 1705 1710

Leu Asn Leu Phe Val Ala Val Ile Met Asp Asn Phe Glu Tyr Leu
1715 1720 1725

Thr Arg Asp Ser Ser Ile Leu Gly Pro His His Leu Asp Glu Phe
1730 1735 1740

Val Arg Val Trp Ala Glu Tyr Asp Arg Ala Ala Cys Gly Arg Ile
1745 1750 1755

His Tyr Thr Glu Met Tyr Glu Met Leu Thr Leu Met Ser Pro Pro
1760 1765 1770

Leu Gly Leu Gly Lys Arg Cys Pro Ser Lys Val Ala Tyr Lys Arg
1775 1780 1785

Leu Val Leu Met Asn Met Pro Val Ala Glu Asp Met Thr Val His
1790 1795 1800

Phe Thr Ser Thr Leu Met Ala Leu Ile Arg Thr Ala Leu Asp Ile
1805 1810 1815

Lys Ile Ala Lys Gly Gly Ala Asp Arg Gln Gln Leu Asp Ser Glu
1820 1825 1830

Leu Gln Lys Glu Thr Leu Ala Ile Trp Pro His Leu Ser Gln Lys
1835 1840 1845

Met Leu Asp Leu Leu Val Pro Met Pro Lys Ala Ser Asp Leu Thr
1850 1855 1860

Val Gly Lys Ile Tyr Ala Ala Met Met Ile Met Asp Tyr Tyr Lys
1865 1870 1875

Gln Ser Lys Val Lys Lys Gln Arg Gln Gln Leu Glu Glu Gln Lys
1880 1885 1890

Asn Ala Pro Met Phe Gln Arg Met Glu Pro Ser Ser Leu Pro Gln
1895 1900 1905

Glu Ile Ile Ala Asn Ala Lys Ala Leu Pro Tyr Leu Gln Gln Asp
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1910	1915	1920
Pro Val Ser Gly Leu Ser Gly Arg Ser Gly Tyr Pro Ser Met Ser		
1925	1930	1935
Pro Leu Ser Pro Gln Asp Ile Phe Gln Leu Ala Cys Met Asp Pro		
1940	1945	1950
Thr Asp Asp Gly Gln Phe Gln Glu Arg Gln Ser Leu Glu Pro Glu		
1955	1960	1965
Val Ser Glu Leu Lys Ser Val Gln Pro Ser Asn His Gly Ile Tyr		
1970	1975	1980
Leu Pro Ser Asp Thr Gln Glu His Ala Gly Ser Gly Arg Ala Ser		
1985	1990	1995
Ser Met Pro Arg Leu Thr Val Asp Pro Gln Val Val Thr Asp Pro		
2000	2005	2010
Ser Ser Met Arg Arg Ser Phe Ser Thr Ile Arg Asp Lys Arg Ser		
2015	2020	2025
Asn Ser Ser Trp Leu Glu Glu Phe Ser Met Glu Arg Ser Ser Glu		
2030	2035	2040
Asn Thr Tyr Lys Ser Arg Arg Arg Ser Tyr His Ser Ser Leu Arg		
2045	2050	2055
Leu Ser Ala His Arg Leu Asn Ser Asp Ser Gly His Lys Ser Asp		
2060	2065	2070
Thr His Arg Ser Gly Gly Arg Glu Arg Gly Arg Ser Lys Glu Arg		
2075	2080	2085
Lys His Leu Leu Ser Pro Asp Val Ser Arg Cys Asn Ser Glu Glu		
2090	2095	2100
Arg Gly Thr Gln Ala Asp Trp Glu Ser Pro Glu Arg Arg Gln Ser		
2105	2110	2115
Arg Ser Pro Ser Glu Gly Arg Ser Gln Thr Pro Asn Arg Gln Gly		
2120	2125	2130
Thr Gly Ser Leu Ser Glu Ser Ser Ile Pro Ser Val Ser Asp Thr		
2135	2140	2145

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Ser Thr Pro Arg Arg Ser Arg Arg Gln Leu Pro Pro Val Pro Pro
2150 2155 2160

Lys Pro Arg Pro Leu Leu Ser Tyr Ser Ser Leu Ile Arg His Ala
2165 2170 2175

Gly Ser Ile Ser Pro Pro Ala Asp Gly Ser Glu Glu Gly Ser Pro
2180 2185 2190

Leu Thr Ser Gln Ala Leu Glu Ser Asn Asn Ala Cys Leu Thr Glu
2195 2200 2205

Ser Ser Asn Ser Pro His Pro Gln Gln Ser Gln His Ala Ser Pro
2210 2215 2220

Gln Arg Tyr Ile Ser Glu Pro Tyr Leu Ala Leu His Glu Asp Ser
2225 2230 2235

His Ala Ser Asp Cys Gly Glu Glu Glu Thr Leu Thr Phe Glu Ala
2240 2245 2250

Ala Val Ala Thr Ser Leu Gly Arg Ser Asn Thr Ile Gly Ser Ala
2255 2260 2265

Pro Pro Leu Arg His Ser Trp Gln Met Pro Asn Gly His Tyr Arg
2270 2275 2280

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2300 2305 2310

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<400> 13

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20 25 30

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Arg Arg Leu Glu Lys Thr Glu Pro Tyr Phe Ile Gly Ile Phe Cys Phe
35 40 45

Glu Ala Gly Ile Lys Ile Val Ala Leu Gly Phe Ile Phe His Lys Gly
50 55 60

Ser Tyr Leu Arg Asn Gly Trp Asn Val Met Asp Phe Ile Val Val Leu
65 70 75 80

Ser Gly Ile Leu Ala Thr Ala Gly Thr His Phe Asn Thr His Val Asp
85 90 95

Leu Arg Thr Leu Arg Ala Val Arg Val Leu Arg Pro Leu Lys Leu Val
100 105 110

Ser Gly Ile Pro Ser Leu Gln Ile Val Leu Lys Ser Ile Met Lys Ala
115 120 125

Met Val Pro Leu Leu Gln Ile Gly Leu Leu Leu Phe Phe Ala Ile Leu
130 135 140

Met Phe Ala Ile Ile Gly Leu Glu Phe Tyr Ser Gly Lys Leu His Arg
145 150 155 160

Ala Cys Phe Met Asn Asn Ser Gly Ile Leu Glu Gly Phe Asp Pro Pro
165 170 175

His Pro Cys Gly Val Gln Gly Cys Pro Ala Gly Tyr Glu Cys Lys Asp
180 185 190

Trp Ile Gly Pro Asn Asp Gly Ile Thr Gln Phe Asp Asn Ile Leu Phe
195 200 205

Ala Val Leu Thr Val Phe Gln Cys Ile Thr Met Glu Gly Trp Thr Thr
210 215 220

Val Leu Tyr Asn Thr Asn Asp Ala Leu Gly Ala Thr Trp Asn Trp Leu
225 230 235 240

Tyr Phe Ile Pro Leu Ile Ile Gly Ser Phe Phe Val Leu Asn Leu
245 250 255

Val Leu Gly Val Leu Ser Gly Glu Phe Ala Lys Glu Arg Glu Arg Val
260 265 270

Glu Asn Arg Arg Ala Phe Met Lys Leu Arg Arg Gln Gln Ile Glu
275 280 285

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Arg Glu Leu Asn Gly Tyr Arg Ala Trp Ile Asp Lys Ala Glu Glu Val
290 295 300

Met Leu Ala Glu Glu Asn Lys Asn Ala Gly Thr Ser Ala Leu Glu Val
305 310 315 320

Leu Arg Arg Ala Thr Ile Lys Arg Ser Arg Thr Glu Ala Met Thr Arg
325 330 335

Asp Ser Ser Asp Glu His Cys Val Asp Ile Ser Ser Val Gly Thr Pro
340 345 350

Leu Ala Arg Ala Ser Ile Lys Ser Ala Lys Val Asp Gly Val Ser Tyr
355 360 365

Phe Arg His Lys Glu Arg Leu Leu Arg Ile Ser Ile Arg His Met Val
370 375 380

Lys Ser Gln Val Phe Tyr Trp Ile Val Leu Ser Leu Val Ala Leu Asn
385 390 395 400

Thr Ala Cys Val Ala Ile Val His His Asn Gln Pro Gln Trp Leu Thr
405 410 415

His Leu Leu Tyr Tyr Ala Glu Phe Leu Phe Leu Gly Leu Phe Leu Leu
420 425 430

Glu Met Ser Leu Lys Met Tyr Gly Met Gly Pro Arg Leu Tyr Phe His
435 440 445

Ser Ser Phe Asn Cys Phe Asp Phe Gly Val Thr Val Gly Ser Ile Phe
450 455 460

Glu Val Val Trp Ala Ile Phe Arg Pro Gly Thr Ser Phe Gly Ile Ser
465 470 475 480

Val Leu Arg Ala Leu Arg Leu Leu Arg Ile Phe Lys Ile Thr Lys Tyr
485 490 495

Trp Ala Ser Leu Arg Asn Leu Val Val Ser Leu Met Ser Ser Met Lys
500 505 510

Ser Ile Ile Ser Leu Leu Phe Leu Leu Phe Leu Phe Ile Val Val Phe
515 520 525

Ala Leu Leu Gly Met Gln Leu Phe Gly Gly Arg Phe Asn Phe Asn Asp
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530

535

540

Gly Thr Pro Ser Ala Asn Phe Asp Thr Phe Pro Ala Ala Ile Met Thr
 545 550 555 560

Val Phe Gln Ile Leu Thr Gly Glu Asp Trp Asn Glu Val Met Tyr Asn
 565 570 575

Gly Ile Arg Ser Gln Gly Gly Val Ser Ser Gly Met Trp Ser Ala Ile
 580 585 590

Tyr Phe Ile Val Leu Thr Leu Phe Gly Asn Tyr Thr Leu Leu Asn Val
 595 600 605

Phe Leu Ala Ile Ala Val Asp Asn Leu Ala Asn Ala Gln Glu Leu Thr
 610 615 620

Lys Asp Glu Gln Glu Glu Glu Glu Ala Phe Asn Gln Lys His Ala Leu
 625 630 635 640

Gln Lys Ala Lys Glu Val Ser Pro Met Ser Ala Pro Asn Met Pro Ser
 645 650 655

Ile Glu Arg Glu Arg Arg Arg His His Met Ser Val Trp Glu Gln
 660 665 670

Arg Thr Ser Gln Leu Arg Lys His Met Gln Met Ser Ser Gln Glu Ala
 675 680 685

Leu Asn Arg Glu Glu Ala Pro Thr Met Asn Pro Leu Asn Pro Leu Asn
 690 695 700

Pro Leu Ser Ser Leu Asn Pro Leu Asn Ala His Pro Ser Leu Tyr Arg
 705 710 715 720

Arg Pro Arg Ala Ile Glu Gly Leu Ala Leu Gly Leu Ala Leu Glu Lys
 725 730 735

Phe Glu Glu Glu Arg Ile Ser Arg Gly Gly Ser Leu Lys Gly Asp Gly
 740 745 750

Gly Asp Arg Ser Ser Ala Leu Asp Asn Gln Arg Thr Pro Leu Ser Leu
 755 760 765

Gly Gln Arg Glu Pro Pro Trp Leu Ala Arg Pro Cys His Gly Asn Cys
 770 775 780

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Asp Pro Thr Gln Gln Glu Ala Gly Gly Glu Ala Val Val Thr Phe
785 790 795 800

Glu Asp Arg Ala Arg His Arg Gln Ser Gln Arg Arg Ser Arg His Arg
805 810 815

Arg Val Arg Thr Glu Gly Lys Glu Ser Ser Ser Ala Ser Arg Ser Arg
820 825 830

Ser Ala Ser Gln Glu Arg Ser Leu Asp Glu Ala Met Pro Thr Glu Gly
835 840 845

Glu Lys Asp His Glu Leu Arg Gly Asn His Gly Ala Lys Glu Pro Thr
850 855 860

Ile Gln Glu Glu Arg Ala Gln Asp Leu Arg Arg Thr Asn Ser Leu Met
865 870 875 880

Val Ser Arg Gly Ser Gly Leu Ala Gly Gly Leu Asp Glu Ala Asp Thr
885 890 895

Pro Leu Val Leu Pro His Pro Glu Leu Glu Val Gly Lys His Val Val
900 905 910

Leu Thr Glu Gln Glu Pro Glu Gly Ser Ser Glu Gln Ala Leu Leu Gly
915 920 925

Asn Val Gln Leu Asp Met Gly Arg Val Ile Ser Gln Ser Glu Pro Asp
930 935 940

Leu Ser Cys Ile Thr Ala Asn Thr Asp Lys Ala Thr Thr Glu Ser Thr
945 950 955 960

Ser Val Thr Val Ala Ile Pro Asp Val Asp Pro Leu Val Asp Ser Thr
965 970 975

Val Val His Ile Ser Asn Lys Thr Asp Gly Glu Ala Ser Pro Leu Lys
980 985 990

Glu Ala Glu Ile Arg Glu Asp Glu Glu Glu Val Glu Lys Lys Lys Gln
995 1000 1005

Lys Lys Glu Lys Arg Glu Thr Gly Lys Ala Met Val Pro His Ser
1010 1015 1020

Ser Met Phe Ile Phe Ser Thr Thr Asn Pro Ile Arg Arg Ala Cys
1025 1030 1035

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His Tyr Ile Val Asn Leu Arg Tyr Phe Glu Met Cys Ile Leu Leu
1040 1045 1050

Val Ile Ala Ala Ser Ser Ile Ala Leu Ala Ala Glu Asp Pro Val
1055 1060 1065

Leu Thr Asn Ser Glu Arg Asn Lys Val Leu Arg Tyr Phe Asp Tyr
1070 1075 1080

Val Phe Thr Gly Val Phe Thr Phe Glu Met Val Ile Lys Met Ile
1085 1090 1095

Asp Gln Gly Leu Ile Leu Gln Asp Gly Ser Tyr Phe Arg Asp Leu
1100 1105 1110

Trp Asn Ile Leu Asp Phe Val Val Val Val Gly Ala Leu Val Ala
1115 1120 1125

Phe Ala Leu Ala Asn Ala Leu Gly Thr Asn Lys Gly Arg Asp Ile
1130 1135 1140

Lys Thr Ile Lys Ser Leu Arg Val Leu Arg Val Leu Arg Pro Leu
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Lys Thr Ile Lys Arg Leu Pro Lys Leu Lys Ala Val Phe Asp Cys
1160 1165 1170

Val Val Thr Ser Leu Lys Asn Val Phe Asn Ile Leu Ile Val Tyr
1175 1180 1185

Lys Leu Phe Met Phe Ile Phe Ala Val Ile Ala Val Gln Leu Phe
1190 1195 1200

Lys Gly Lys Phe Phe Tyr Cys Thr Asp Ser Ser Lys Asp Thr Glu
1205 1210 1215

Lys Glu Cys Ile Gly Asn Tyr Val Asp His Glu Lys Asn Lys Met
1220 1225 1230

Glu Val Lys Gly Arg Glu Trp Lys Arg His Glu Phe His Tyr Asp
1235 1240 1245

Asn Ile Ile Trp Ala Leu Leu Thr Leu Phe Thr Val Ser Thr Gly
1250 1255 1260

Glu Gly Trp Pro Gln Val Leu Gln His Ser Val Asp Val Thr Glu
1265 1270 1275

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Glu Asp Arg Gly Pro Ser Arg Ser Asn Arg Met Glu Met Ser Ile
1280 1285 1290

Phe Tyr Val Val Tyr Phe Val Val Phe Pro Phe Phe Phe Val Asn
1295 1300 1305

Ile Phe Val Ala Leu Ile Ile Ile Thr Phe Gln Glu Gln Gly Asp
1310 1315 1320

Lys Met Met Glu Glu Cys Ser Leu Glu Lys Asn Glu Arg Ala Cys
1325 1330 1335

Ile Asp Phe Ala Ile Ser Ala Lys Pro Leu Thr Arg Tyr Met Pro
1340 1345 1350

Gln Asn Arg His Thr Phe Gln Tyr Arg Val Trp His Phe Val Val
1355 1360 1365

Ser Pro Ser Phe Glu Tyr Thr Ile Met Ala Met Ile Ala Leu Asn
1370 1375 1380

Thr Val Val Leu Met Met Lys Tyr Tyr Ser Ala Pro Cys Thr Tyr
1385 1390 1395

Glu Leu Ala Leu Lys Tyr Leu Asn Ile Ala Phe Thr Met Val Phe
1400 1405 1410

Ser Leu Glu Cys Val Leu Lys Val Ile Ala Phe Gly Phe Leu Asn
1415 1420 1425

Tyr Phe Arg Asp Thr Trp Asn Ile Phe Asp Phe Ile Thr Val Ile
1430 1435 1440

Gly Ser Ile Thr Glu Ile Ile Leu Thr Asp Ser Lys Leu Val Asn
1445 1450 1455

Thr Ser Gly Phe Asn Met Ser Phe Leu Lys Leu Phe Arg Ala Ala
1460 1465 1470

Arg Leu Ile Lys Leu Leu Arg Gln Gly Tyr Thr Ile Arg Ile Leu
1475 1480 1485

Leu Trp Thr Phe Val Gln Ser Phe Lys Ala Leu Pro Tyr Val Cys
1490 1495 1500

Leu Leu Ile Ala Met Leu Phe Phe Ile Tyr Ala Ile Ile Gly Met
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1505 1510 1515
Gln Val Phe Gly Asn Ile Lys Leu Asp Glu Glu Ser His Ile Asn
1520 1525 1530

Arg His Asn Asn Phe Arg Ser Phe Phe Gly Ser Leu Met Leu Leu
1535 1540 1545

Phe Arg Ser Ala Thr Gly Glu Ala Trp Gln Glu Ile Met Leu Ser
1550 1555 1560

Cys Leu Gly Glu Lys Gly Cys Glu Pro Asp Thr Thr Ala Pro Ser
1565 1570 1575

Gly Gln Asn Glu Asn Glu Arg Cys Gly Thr Asp Leu Ala Tyr Val
1580 1585 1590

Tyr Phe Val Ser Phe Ile Phe Phe Cys Ser Phe Leu Met Leu Asn
1595 1600 1605

Leu Phe Val Ala Val Ile Met Asp Asn Phe Glu Tyr Leu Thr Arg
1610 1615 1620

Asp Ser Ser Ile Leu Gly Pro His His Leu Asp Glu Phe Val Arg
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Val Trp Ala Glu Tyr Asp Arg Ala Ala Cys Gly Arg Ile Pro Tyr
1640 1645 1650

Lys Asp Met Tyr Lys Leu Val Arg Val Ile Ser Pro Pro Leu Gly
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Leu Gly Glu Asn Cys Pro Tyr Arg Val Ala Cys Lys Arg Leu Val
1670 1675 1680

Leu Met Asn Met Pro Val Ala Glu Asp Met Thr Val His Phe Thr
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Ser Thr Leu Met Ala Leu Ile Arg Thr Ala Leu Asp Ile Lys Ile
1700 1705 1710

Ala Lys Gly Gly Ala Asp Arg Gln Gln Leu Asp Ser Glu Leu Gln
1715 1720 1725

Lys Glu Thr Leu Ala Ile Trp Pro His Leu Ser Gln Lys Met Leu
1730 1735 1740

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Asp Leu Leu Val Pro Met Pro Lys Ala Ser Asp Leu Thr val Gly
1745 1750 1755

Lys Ile Tyr Ala Ala Met Met Ile Met Asp Tyr Tyr Lys Gln Ser
1760 1765 1770

Lys Val Lys Lys Gln Arg Gln Gln Leu Glu Glu Gln Lys Asn Ala
1775 1780 1785

Pro Met Phe Gln Arg Met Glu Pro Ser Ser Leu Pro Gln Glu Ile
1790 1795 1800

Ile Ala Asn Ala Lys Ala Leu Pro Tyr Leu Gln Gln Asp Pro Val
1805 1810 1815

Ser Gly Leu Ser Gly Arg Ser Gly Tyr Pro Ser Met Ser Pro Leu
1820 1825 1830

Ser Pro Gln Asp Ile Phe Gln Leu Ala Cys Met Asp Pro Ala Asp
1835 1840 1845

Asp Gly Gln Phe Gln Glu Arg Gln Ser Leu Val Val Thr Asp Pro
1850 1855 1860

Ser Ser Met Arg Arg Ser Phe Ser Thr Ile Arg Asp Lys Arg Ser
1865 1870 1875

Asn Ser Ser Trp Leu Glu Glu Phe Ser Met Glu Arg Ser Ser Glu
1880 1885 1890

Asn Thr Tyr Lys Ser Arg Arg Arg Ser Tyr His Ser Ser Leu Arg
1895 1900 1905

Leu Ser Ala His Arg Leu Asn Ser Asp Ser Gly His Lys Ser Asp
1910 1915 1920

Thr His Arg Ser Gly Gly Arg Glu Arg Gly Arg Ser Lys Glu Arg
1925 1930 1935

Lys His Leu Leu Ser Pro Asp Val Ser Arg Cys Asn Ser Glu Glu
1940 1945 1950

Arg Gly Thr Gln Ala Asp Trp Glu Ser Pro Glu Arg Arg Gln Ser
1955 1960 1965

Arg Ser Pro Ser Glu Gly Arg Ser Gln Thr Pro Asn Arg Gln Gly
1970 1975 1980

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Thr Gly Ser Leu Ser Glu Ser Ser Ile Pro Ser Val Ser Asp Thr
1985 1990 1995

Ser Thr Pro Arg Arg Ser Arg Arg Gln Leu Pro Pro Val Pro Pro
2000 2005 2010

Lys Pro Arg Pro Leu Leu Ser Tyr Ser Ser Leu Ile Arg His Ala
2015 2020 2025

Gly Ser Ile Ser Pro Pro Ala Asp Gly Ser Glu Glu Gly Ser Pro
2030 2035 2040

Leu Thr Ser Gln Ala Leu Glu Ser Asn Asn Ala Cys Leu Thr Glu
2045 2050 2055

Ser Ser Asn Ser Pro His Pro Gln Gln Ser Gln His Ala Ser Pro
2060 2065 2070

Gln Arg Tyr Ile Ser Glu Pro Tyr Leu Ala Leu His Glu Asp Ser
2075 2080 2085

His Ala Ser Asp Cys Gly Glu Glu Glu Thr Leu Thr Phe Glu Ala
2090 2095 2100

Ala Val Ala Thr Ser Leu Gly Arg Ser Asn Thr Ile Gly Ser Ala
2105 2110 2115

Pro Pro Leu Arg His Ser Trp Gln Met Pro Asn Gly His Tyr Arg
2120 2125 2130

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2135 2140 2145

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<212> PRT

<213> Homo sapiens

<400> 14

Pro Phe Glu Tyr Met Ile Leu Ala Thr Ile Ile Ala Asn Cys Ile Val
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Leu Ala Leu Glu Gln His Leu Pro Glu Asp Asp Lys Thr Pro Met Ser
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Arg Arg Leu Glu Lys Thr Glu Pro Tyr Phe Ile Gly Ile Phe Cys Phe
35 40 45

Glu Ala Gly Ile Lys Ile Val Ala Leu Gly Phe Ile Phe His Lys Gly
50 55 60

Ser Tyr Leu Arg Asn Gly Trp Asn Val Met Asp Phe Ile Val Val Leu
65 70 75 80

Ser Gly Ile Leu Ala Thr Ala Gly Thr His Phe Asn Thr His Val Asp
85 90 95

Leu Arg Thr Leu Arg Ala Val Arg Val Leu Arg Pro Leu Lys Leu Val
100 105 110

Ser Gly Ile Pro Ser Leu Gln Ile Val Leu Lys Ser Ile Met Lys Ala
115 120 125

Met Val Pro Leu Leu Gln Ile Gly Leu Leu Leu Phe Phe Ala Ile Leu
130 135 140

Met Phe Ala Ile Ile Gly Leu Glu Phe Tyr Ser Gly Lys Leu His Arg
145 150 155 160

Ala Cys Phe Met Asn Asn Ser Gly Ile Leu Glu Gly Phe Asp Pro Pro
165 170 175

His Pro Cys Gly Val Gln Gly Cys Pro Ala Gly Tyr Glu Cys Lys Asp
180 185 190

Trp Ile Gly Pro Asn Asp Gly Ile Thr Gln Phe Asp Asn Ile Leu Phe
195 200 205

Ala Val Leu Thr Val Phe Gln Cys Ile Thr Met Glu Gly Trp Thr Thr
210 215 220

Val Leu Tyr Asn Thr Asn Asp Ala Leu Gly Ala Thr Trp Asn Trp Leu
225 230 235 240

Tyr Phe Ile Pro Leu Ile Ile Gly Ser Phe Phe Val Leu Asn Leu
245 250 255

Val Leu Gly Val Leu Ser Gly Glu Phe Ala Lys Glu Arg Glu Arg Val
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260

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270

Glu Asn Arg Arg Ala Phe Met Lys Leu Arg Arg Gln Gln Gln Ile Glu
 275 280 285

Arg Glu Leu Asn Gly Tyr Arg Ala Trp Ile Asp Lys Ala Glu Glu Val
 290 295 300

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 305 310 315 320

Leu Arg Arg Ala Thr Ile Lys Arg Ser Arg Thr Glu Ala Met Thr Arg
 325 330 335

Asp Ser Ser Asp Glu His Cys Val Asp Ile Ser Ser Val Gly Thr Pro
 340 345 350

Leu Ala Arg Ala Ser Ile Lys Ser Ala Lys Val Asp Gly Val Ser Tyr
 355 360 365

Phe Arg His Lys Glu Arg Leu Leu Arg Ile Ser Ile Arg His Met Val
 370 375 380

Lys Ser Gln Val Phe Tyr Trp Ile Val Leu Ser Leu Val Ala Leu Asn
 385 390 395 400

Thr Ala Cys Val Ala Ile Val His His Asn Gln Pro Gln Trp Leu Thr
 405 410 415

His Leu Leu Tyr Tyr Ala Glu Phe Leu Phe Leu Gly Leu Phe Leu Leu
 420 425 430

Glu Met Ser Leu Lys Met Tyr Gly Met Gly Pro Arg Leu Tyr Phe His
 435 440 445

Ser Ser Phe Asn Cys Phe Asp Phe Gly Val Thr Val Gly Ser Ile Phe
 450 455 460

Glu Val Val Trp Ala Ile Phe Arg Pro Gly Thr Ser Phe Gly Ile Ser
 465 470 475 480

Val Leu Arg Ala Leu Arg Leu Leu Arg Ile Phe Lys Ile Thr Lys Tyr
 485 490 495

Trp Ala Ser Leu Arg Asn Leu Val Val Ser Leu Met Ser Ser Met Lys
 500 505 510

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Ser Ile Ile Ser Leu Leu Phe Leu Leu Phe Leu Phe Ile Val Val Phe
515 520 525

Ala Leu Leu Gly Met Gln Leu Phe Gly Gly Arg Phe Asn Phe Asn Asp
530 535 540

Gly Thr Pro Ser Ala Asn Phe Asp Thr Phe Pro Ala Ala Ile Met Thr
545 550 555 560

Val Phe Gln Ile Leu Thr Gly Glu Asp Trp Asn Glu Val Met Tyr Asn
565 570 575

Gly Ile Arg Ser Gln Gly Gly Val Ser Ser Gly Met Trp Ser Ala Ile
580 585 590

Tyr Phe Ile Val Leu Thr Leu Phe Gly Asn Tyr Thr Leu Leu Asn Val
595 600 605

Phe Leu Ala Ile Ala Val Asp Asn Leu Ala Asn Ala Gln Glu Leu Thr
610 615 620

Lys Asp Glu Gln Glu Glu Glu Glu Ala Phe Asn Gln Lys His Ala Leu
625 630 635 640

Gln Lys Ala Lys Glu Val Ser Pro Met Ser Ala Pro Asn Met Pro Ser
645 650 655

Ile Glu Arg Asp Arg Arg Arg His His Met Ser Met Trp Glu Pro
660 665 670

Arg Ser Ser His Leu Arg Glu Arg Arg Arg Arg His His Met Ser Val
675 680 685

Trp Glu Gln Arg Thr Ser Gln Leu Arg Lys His Met Gln Met Ser Ser
690 695 700

Gln Glu Ala Leu Asn Arg Glu Glu Ala Pro Thr Met Asn Pro Leu Asn
705 710 715 720

Pro Leu Asn Pro Leu Ser Ser Leu Asn Pro Leu Asn Ala His Pro Ser
725 730 735

Leu Tyr Arg Arg Pro Arg Ala Ile Glu Gly Leu Ala Leu Gly Leu Ala
740 745 750

Leu Glu Lys Phe Glu Glu Glu Arg Ile Ser Arg Gly Gly Ser Leu Lys
755 760 765

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Gly Asp Gly Gly Asp Arg Ser Ser Ala Leu Asp Asn Gln Arg Thr Pro
770 775 780

Leu Ser Leu Gly Gln Arg Glu Pro Pro Trp Leu Ala Arg Pro Cys His
785 790 795 800

Gly Asn Cys Asp Pro Thr Gln Gln Glu Ala Gly Gly Glu Ala Val
805 810 815

Val Thr Phe Glu Asp Arg Ala Arg His Arg Gln Ser Gln Arg Arg Ser
820 825 830

Arg His Arg Arg Val Arg Thr Glu Gly Lys Glu Ser Ser Ala Ser
835 840 845

Arg Ser Arg Ser Ala Ser Gln Glu Arg Ser Leu Asp Glu Ala Met Pro
850 855 860

Thr Glu Gly Glu Lys Asp His Glu Leu Arg Gly Asn His Gly Ala Lys
865 870 875 880

Glu Pro Thr Ile Gln Glu Glu Arg Ala Gln Asp Leu Arg Arg Thr Asn
885 890 895

Ser Leu Met Val Ser Arg Gly Ser Gly Leu Ala Gly Leu Asp Glu
900 905 910

Ala Asp Thr Pro Leu Val Leu Pro His Pro Glu Leu Glu Val Gly Lys
915 920 925

His Val Val Leu Thr Glu Gln Glu Pro Glu Gly Ser Ser Glu Gln Ala
930 935 940

Leu Leu Gly Asn Val Gln Leu Asp Met Gly Arg Val Ile Ser Gln Ser
945 950 955 960

Glu Pro Asp Leu Ser Cys Ile Thr Ala Asn Thr Asp Lys Ala Thr Thr
965 970 975

Glu Ser Thr Ser Val Thr Val Ala Ile Pro Asp Val Asp Pro Leu Val
980 985 990

Asp Ser Thr Val Val His Ile Ser Asn Lys Thr Asp Gly Glu Ala Ser
995 1000 1005

Pro Leu Lys Glu Ala Glu Ile Arg Glu Asp Glu Glu Glu Val Glu
1010 1015 1020

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Lys Lys Lys Gln Lys Lys Glu Lys Arg Glu Thr Gly Lys Ala Met
1025 1030 1035

Val Pro His Ser Ser Met Phe Ile Phe Ser Thr Thr Asn Pro Ile
1040 1045 1050

Arg Arg Ala Cys His Tyr Ile Val Asn Leu Arg Tyr Phe Glu Met
1055 1060 1065

Cys Ile Leu Leu Val Ile Ala Ala Ser Ser Ile Ala Leu Ala Ala
1070 1075 1080

Glu Asp Pro Val Leu Thr Asn Ser Glu Arg Asn Lys Val Leu Arg
1085 1090 1095

Tyr Phe Asp Tyr Val Phe Thr Gly Val Phe Thr Phe Glu Met Val
1100 1105 1110

Ile Lys Met Ile Asp Gln Gly Leu Ile Leu Gln Asp Gly Ser Tyr
1115 1120 1125

Phe Arg Asp Leu Trp Asn Ile Leu Asp Phe Val Val Val Val Gly
1130 1135 1140

Ala Leu Val Ala Phe Ala Leu Ala Asn Ala Leu Gly Thr Asn Lys
1145 1150 1155

Gly Arg Asp Ile Lys Thr Ile Lys Ser Leu Arg Val Leu Arg Val
1160 1165 1170

Leu Arg Pro Leu Lys Thr Ile Lys Arg Leu Pro Lys Leu Lys Ala
1175 1180 1185

Val Phe Asp Cys Val Val Thr Ser Leu Lys Asn Val Phe Asn Ile
1190 1195 1200

Leu Ile Val Tyr Lys Leu Phe Met Phe Ile Phe Ala Val Ile Ala
1205 1210 1215

Val Gln Leu Phe Lys Gly Lys Phe Phe Tyr Cys Thr Asp Ser Ser
1220 1225 1230

Lys Asp Thr Glu Lys Glu Cys Ile Gly Asn Tyr Val Asp His Glu
1235 1240 1245

Lys Asn Lys Met Glu Val Lys Gly Arg Glu Trp Lys Arg His Glu
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1250 1255 1260
Phe His Tyr Asp Asn Ile Ile Trp Ala Leu Leu Thr Leu Phe Thr
1265 1270 1275

Val Ser Thr Gly Glu Gly Trp Pro Gln Val Leu Gln His Ser Val
1280 1285 1290

Asp Val Thr Glu Glu Asp Arg Gly Pro Ser Arg Ser Asn Arg Met
1295 1300 1305

Glu Met Ser Ile Phe Tyr Val Val Tyr Phe Val Val Phe Pro Phe
1310 1315 1320

Phe Phe Val Asn Ile Phe Val Ala Leu Ile Ile Ile Thr Phe Gln
1325 1330 1335

Glu Gln Gly Asp Lys Met Met Glu Glu Cys Ser Leu Glu Lys Asn
1340 1345 1350

Glu Arg Ala Cys Ile Asp Phe Ala Ile Ser Ala Lys Pro Leu Thr
1355 1360 1365

Arg Tyr Met Pro Gln Asn Arg His Thr Phe Gln Tyr Arg Val Trp
1370 1375 1380

His Phe Val Val Ser Pro Ser Phe Glu Tyr Thr Ile Met Ala Met
1385 1390 1395

Ile Ala Leu Asn Thr Val Val Leu Met Met Lys Tyr Tyr Ser Ala
1400 1405 1410

Pro Cys Thr Tyr Glu Leu Ala Leu Lys Tyr Leu Asn Ile Ala Phe
1415 1420 1425

Thr Met Val Phe Ser Leu Glu Cys Val Leu Lys Val Ile Ala Phe
1430 1435 1440

Gly Phe Leu Asn Tyr Phe Arg Asp Thr Trp Asn Ile Phe Asp Phe
1445 1450 1455

Ile Thr Val Ile Gly Ser Ile Thr Glu Ile Ile Leu Thr Asp Ser
1460 1465 1470

Lys Leu Val Asn Thr Ser Gly Phe Asn Met Ser Phe Leu Lys Leu
1475 1480 1485

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Phe Arg Ala Ala Arg Leu Ile Lys Leu Leu Arg Gln Gly Tyr Thr
1490 1495 1500

Ile Arg Ile Leu Leu Trp Thr Phe Val Gln Ser Phe Lys Ala Leu
1505 1510 1515

Pro Tyr Val Cys Leu Leu Ile Ala Met Leu Phe Phe Ile Tyr Ala
1520 1525 1530

Ile Ile Gly Met Gln Val Phe Gly Asn Ile Lys Leu Asp Glu Glu
1535 1540 1545

Ser His Ile Asn Arg His Asn Asn Phe Arg Ser Phe Phe Gly Ser
1550 1555 1560

Leu Met Leu Leu Phe Arg Ser Ala Thr Gly Glu Ala Trp Gln Glu
1565 1570 1575

Ile Met Leu Ser Cys Leu Gly Glu Lys Gly Cys Glu Pro Asp Thr
1580 1585 1590

Thr Ala Pro Ser Gly Gln Asn Glu Asn Glu Arg Cys Gly Thr Asp
1595 1600 1605

Leu Ala Tyr Val Tyr Phe Val Ser Phe Ile Phe Phe Cys Ser Phe
1610 1615 1620

Leu Met Leu Asn Leu Phe Val Ala Val Ile Met Asp Asn Phe Glu
1625 1630 1635

Tyr Leu Thr Arg Asp Ser Ser Ile Leu Gly Pro His His Leu Asp
1640 1645 1650

Glu Phe Val Arg Val Trp Ala Glu Tyr Asp Arg Ala Ala Cys Gly
1655 1660 1665

Arg Ile His Tyr Thr Glu Met Tyr Glu Met Leu Thr Leu Met Ser
1670 1675 1680

Pro Pro Leu Gly Leu Gly Lys Arg Cys Pro Ser Lys Val Ala Tyr
1685 1690 1695

Lys Arg Leu Val Leu Met Asn Met Pro Val Ala Glu Asp Met Thr
1700 1705 1710

Val His Phe Thr Ser Thr Leu Met Ala Leu Ile Arg Thr Ala Leu
1715 1720 1725

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Asp Ile Lys Ile Ala Lys Gly Gly Ala Asp Arg Gln Gln Leu Asp
1730 1735 1740

Ser Glu Leu Gln Lys Glu Thr Leu Ala Ile Trp Pro His Leu Ser
1745 1750 1755

Gln Lys Met Leu Asp Leu Leu Val Pro Met Pro Lys Ala Ser Asp
1760 1765 1770

Leu Thr Val Gly Lys Ile Tyr Ala Ala Met Met Ile Met Asp Tyr
1775 1780 1785

Tyr Lys Gln Ser Lys Val Lys Lys Gln Arg Gln Gln Leu Glu Glu
1790 1795 1800

Gln Lys Asn Ala Pro Met Phe Gln Arg Met Glu Pro Ser Ser Leu
1805 1810 1815

Pro Gln Glu Ile Ile Ala Asn Ala Lys Ala Leu Pro Tyr Leu Gln
1820 1825 1830

Gln Asp Pro Val Ser Gly Leu Ser Gly Arg Ser Gly Tyr Pro Ser
1835 1840 1845

Met Ser Pro Leu Ser Pro Gln Asp Ile Phe Gln Leu Ala Cys Met
1850 1855 1860

Asp Pro Ala Asp Asp Gly Gln Phe Gln Glu Arg Gln Ser Leu Glu
1865 1870 1875

Pro Glu Val Ser Glu Leu Lys Ser Val Gln Pro Ser Asn His Gly
1880 1885 1890

Ile Tyr Leu Pro Ser Asp Thr Gln Glu His Ala Gly Ser Gly Arg
1895 1900 1905

Ala Ser Ser Met Pro Arg Leu Thr Val Asp Pro Gln Val Val Thr
1910 1915 1920

Asp Pro Ser Ser Met Arg Arg Ser Phe Ser Thr Ile Arg Asp Lys
1925 1930 1935

Arg Ser Asn Ser Ser Trp Leu Glu Glu Phe Ser Met Glu Arg Ser
1940 1945 1950

Ser Glu Asn Thr Tyr Lys Ser Arg Arg Arg Ser Tyr His Ser Ser
1955 1960 1965

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Leu Arg Leu Ser Ala His Arg Leu Asn Ser Asp Ser Gly His Lys
1970 1975 1980

Ser Asp Thr His Arg Ser Gly Gly Arg Glu Arg Gly Arg Ser Lys
1985 1990 1995

Glu Arg Lys His Leu Leu Ser Pro Asp Val Ser Arg Cys Asn Ser
2000 2005 2010

Glu Glu Arg Gly Thr Gln Ala Asp Trp Glu Ser Pro Glu Arg Arg
2015 2020 2025

Gln Ser Arg Ser Pro Ser Glu Gly Arg Ser Gln Thr Pro Asn Arg
2030 2035 2040

Gln Gly Thr Gly Ser Leu Ser Glu Ser Ser Ile Pro Ser Val Ser
2045 2050 2055

Asp Thr Ser Thr Pro Arg Arg Ser Arg Arg Gln Leu Pro Pro Val
2060 2065 2070

Pro Pro Lys Pro Arg Pro Leu Leu Ser Tyr Ser Ser Leu Ile Arg
2075 2080 2085

His Ala Gly Ser Ile Ser Pro Pro Ala Asp Gly Ser Glu Glu Gly
2090 2095 2100

Ser Pro Leu Thr Ser Gln Ala Leu Glu Ser Asn Asn Ala Cys Leu
2105 2110 2115

Thr Glu Ser Ser Asn Ser Pro His Pro Gln Gln Ser Gln His Ala
2120 2125 2130

Ser Pro Gln Arg Tyr Ile Ser Glu Pro Tyr Leu Ala Leu His Glu
2135 2140 2145

Asp Ser His Ala Ser Asp Cys Gly Glu Glu Glu Thr Leu Thr Phe
2150 2155 2160

Glu Ala Ala Val Ala Thr Ser Leu Gly Arg Ser Asn Thr Ile Gly
2165 2170 2175

Ser Ala Pro Pro Leu Arg His Ser Trp Gln Met Pro Asn Gly His
2180 2185 2190

Tyr Arg Arg Arg Arg Gly Gly Pro Gly Pro Gly Met Met Cys
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2195

2200

2205

Gly Ala Val Asn Asn Leu Leu Ser Asp Thr Glu Glu Asp Asp Lys
2210 2215 2220

Cys

<210> 15

<211> 2377

<212> PRT

<213> Homo sapiens

<400> 15

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20 25 30

Gly Pro Gly Ser Ala Glu Lys Asp Pro Gly Ser Ala Asp Ser Glu Ala
35 40 45

Glu Gly Leu Pro Tyr Pro Ala Leu Ala Pro Val Val Phe Phe Tyr Leu
50 55 60

Ser Gln Asp Ser Arg Pro Arg Ser Trp Cys Leu Arg Thr Val Cys Asn
65 70 75 80

Pro Trp Phe Glu Arg Ile Ser Met Leu Val Ile Leu Leu Asn Cys Val
85 90 95

Thr Leu Gly Met Phe Arg Pro Cys Glu Asp Ile Ala Cys Asp Ser Gln
100 105 110

Arg Cys Arg Ile Leu Gln Ala Phe Asp Asp Phe Ile Phe Ala Phe Phe
115 120 125

Ala Val Glu Met Val Val Lys Met Val Ala Leu Gly Ile Phe Gly Lys
130 135 140

Lys Cys Tyr Leu Gly Asp Thr Trp Asn Arg Leu Asp Phe Phe Ile Val
145 150 155 160

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Ile Ala Gly Met Leu Glu Tyr Ser Leu Asp Leu Gln Asn Val Ser Phe
165 170 175

Ser Ala Val Arg Thr Val Arg Val Leu Arg Pro Leu Arg Ala Ile Asn
180 185 190

Arg Val Pro Ser Met Arg Ile Leu Val Thr Leu Leu Leu Asp Thr Leu
195 200 205

Pro Met Leu Gly Asn Val Leu Leu Leu Cys Phe Phe Val Phe Phe Ile
210 215 220

Phe Gly Ile Val Gly Val Gln Leu Trp Ala Gly Leu Leu Arg Asn Arg
225 230 235 240

Cys Phe Leu Pro Glu Asn Phe Ser Leu Pro Leu Ser Val Asp Leu Glu
245 250 255

Arg Tyr Tyr Gln Thr Glu Asn Glu Asp Glu Ser Pro Phe Ile Cys Ser
260 265 270

Gln Pro Arg Glu Asn Gly Met Arg Ser Cys Arg Ser Val Pro Thr Leu
275 280 285

Arg Gly Asp Gly Gly Gly Pro Pro Cys Gly Leu Asp Tyr Glu Ala
290 295 300

Tyr Asn Ser Ser Ser Asn Thr Thr Cys Val Asn Trp Asn Gln Tyr Tyr
305 310 315 320

Thr Asn Cys Ser Ala Gly Glu His Asn Pro Phe Lys Gly Ala Ile Asn
325 330 335

Phe Asp Asn Ile Gly Tyr Ala Trp Ile Ala Ile Phe Gln Val Ile Thr
340 345 350

Leu Glu Gly Trp Val Asp Ile Met Tyr Phe Val Met Asp Ala His Ser
355 360 365

Phe Tyr Asn Phe Ile Tyr Phe Ile Leu Leu Ile Ile Val Gly Ser Phe
370 375 380

Phe Met Ile Asn Leu Cys Leu Val Val Ile Ala Thr Gln Phe Ser Glu
385 390 395 400

Thr Lys Gln Arg Glu Ser Gln Leu Met Arg Glu Gln Arg Val Arg Phe
405 410 415

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Leu Ser Asn Ala Ser Thr Leu Ala Ser Phe Ser Glu Pro Gly Ser Cys
420 425 430

Tyr Glu Glu Leu Leu Lys Tyr Leu Val Tyr Ile Leu Arg Lys Ala Ala
435 440 445

Arg Arg Leu Ala Gln Val Ser Arg Ala Ala Gly Val Arg Val Gly Leu
450 455 460

Leu Ser Ser Pro Ala Pro Leu Gly Gly Gln Glu Thr Gln Pro Ser Ser
465 470 475 480

Ser Cys Ser Arg Ser His Arg Arg Leu Ser Val His His Leu Val His
485 490 495

His His His His His His Tyr His Leu Gly Asn Gly Thr Leu
500 505 510

Arg Ala Pro Arg Ala Ser Pro Glu Ile Gln Asp Arg Asp Ala Asn Gly
515 520 525

Ser Arg Arg Leu Met Leu Pro Pro Pro Ser Thr Pro Ala Leu Ser Gly
530 535 540

Ala Pro Pro Gly Gly Ala Glu Ser Val His Ser Phe Tyr His Ala Asp
545 550 555 560

Cys His Leu Glu Pro Val Arg Cys Gln Ala Pro Pro Pro Arg Ser Pro
565 570 575

Ser Glu Ala Ser Gly Arg Thr Val Gly Ser Gly Lys Val Tyr Pro Thr
580 585 590

Val His Thr Ser Pro Pro Pro Glu Thr Leu Lys Glu Lys Ala Leu Val
595 600 605

Glu Val Ala Ala Ser Ser Gly Pro Pro Thr Leu Thr Ser Leu Asn Ile
610 615 620

Pro Pro Gly Pro Tyr Ser Ser Met His Lys Leu Leu Glu Thr Gln Ser
625 630 635 640

Thr Gly Ala Cys Gln Ser Ser Cys Lys Ile Ser Ser Pro Cys Leu Lys
645 650 655

Ala Asp Ser Gly Ala Cys Gly Pro Asp Ser Cys Pro Tyr Cys Ala Arg
660 665 670

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Ala Gly Ala Gly Glu Val Glu Leu Ala Asp Arg Glu Met Pro Asp Ser
675 680 685

Asp Ser Glu Ala Val Tyr Glu Phe Thr Gln Asp Ala Gln His Ser Asp
690 695 700

Leu Arg Asp Pro His Ser Arg Arg Gln Arg Ser Leu Gly Pro Asp Ala
705 710 715 720

Glu Pro Ser Ser Val Leu Ala Phe Trp Arg Leu Ile Cys Asp Thr Phe
725 730 735

Arg Lys Ile Val Asp Ser Lys Tyr Phe Gly Arg Gly Ile Met Ile Ala
740 745 750

Ile Leu Val Asn Thr Leu Ser Met Gly Ile Glu Tyr His Glu Gln Pro
755 760 765

Glu Glu Leu Thr Asn Ala Leu Glu Ile Ser Asn Ile Val Phe Thr Ser
770 775 780

Leu Phe Ala Leu Glu Met Leu Leu Lys Leu Leu Val Tyr Gly Pro Phe
785 790 795 800

Gly Tyr Ile Lys Asn Pro Tyr Asn Ile Phe Asp Gly Val Ile Val Val
805 810 815

Ile Ser Val Trp Glu Ile Val Gly Gln Gln Gly Gly Leu Ser Val
820 825 830

Leu Arg Thr Phe Arg Leu Met Arg Val Leu Lys Leu Val Arg Phe Leu
835 840 845

Pro Ala Leu Gln Arg Gln Leu Val Val Leu Met Lys Thr Met Asp Asn
850 855 860

Val Ala Thr Phe Cys Met Leu Leu Met Leu Phe Ile Phe Ile Phe Ser
865 870 875 880

Ile Leu Gly Met His Leu Phe Gly Cys Lys Phe Ala Ser Glu Arg Asp
885 890 895

Gly Asp Thr Leu Pro Asp Arg Lys Asn Phe Asp Ser Leu Leu Trp Ala
900 905 910

Ile Val Thr Val Phe Gln Ile Leu Thr Gln Glu Asp Trp Asn Lys Val
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915

920

925

Leu Tyr Asn Gly Met Ala Ser Thr Ser Ser Trp Ala Ala Leu Tyr Phe
 930 935 940

Ile Ala Leu Met Thr Phe Gly Asn Tyr Val Leu Phe Asn Leu Leu Val
 945 950 955 960

Ala Ile Leu Val Glu Gly Phe Gln Ala Glu Glu Ile Ser Lys Arg Glu
 965 970 975

Asp Ala Ser Gly Gln Leu Ser Cys Ile Gln Leu Pro Val Asp Ser Gln
 980 985 990

Gly Gly Asp Ala Asn Lys Ser Glu Ser Glu Pro Asp Phe Phe Ser Pro
 995 1000 1005

Ser Leu Asp Gly Asp Gly Asp Arg Lys Lys Cys Leu Ala Leu Val
 1010 1015 1020

Ser Leu Gly Glu His Pro Glu Leu Arg Lys Ser Leu Leu Pro Pro
 1025 1030 1035

Leu Ile Ile His Thr Ala Ala Thr Pro Met Ser Leu Pro Lys Ser
 1040 1045 1050

Thr Ser Thr Gly Leu Gly Glu Ala Leu Gly Pro Ala Ser Arg Arg
 1055 1060 1065

Thr Ser Ser Ser Gly Ser Ala Glu Pro Gly Ala Ala His Glu Met
 1070 1075 1080

Lys Ser Pro Pro Ser Ala Arg Ser Ser Pro His Ser Pro Trp Ser
 1085 1090 1095

Ala Ala Ser Ser Trp Thr Ser Arg Arg Ser Ser Arg Asn Ser Leu
 1100 1105 1110

Gly Arg Ala Pro Ser Leu Lys Arg Arg Ser Pro Ser Gly Glu Arg
 1115 1120 1125

Arg Ser Leu Leu Ser Gly Glu Gly Gln Glu Ser Gln Asp Glu Glu
 1130 1135 1140

Glu Ser Ser Glu Glu Glu Arg Ala Ser Pro Ala Gly Ser Asp His
 1145 1150 1155

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Arg His Arg Gly Ser Leu Glu Arg Glu Ala Lys Ser Ser Phe Asp
1160 1165 1170 1170

Leu Pro Asp Thr Leu Gln Val Pro Gly Leu His Arg Thr Ala Ser
1175 1180 1185 1185

Gly Arg Gly Ser Ala Ser Glu His Gln Asp Cys Asn Gly Lys Ser
1190 1195 1200 1200

Ala Ser Gly Arg Leu Ala Arg Ala Leu Arg Pro Asp Asp Pro Pro
1205 1210 1215 1215

Leu Asp Gly Asp Asp Ala Asp Asp Glu Gly Asn Leu Ser Lys Gly
1220 1225 1230 1230

Glu Arg Val Arg Ala Trp Ile Arg Ala Arg Leu Pro Ala Cys Cys
1235 1240 1245 1245

Leu Glu Arg Asp Ser Trp Ser Ala Tyr Ile Phe Pro Pro Gln Ser
1250 1255 1260 1260

Arg Phe Arg Leu Leu Cys His Arg Ile Ile Thr His Lys Met Phe
1265 1270 1275 1275

Asp His Val Val Leu Val Ile Ile Phe Leu Asn Cys Ile Thr Ile
1280 1285 1290 1290

Ala Met Glu Arg Pro Lys Ile Asp Pro His Ser Ala Glu Arg Ile
1295 1300 1305 1305

Phe Leu Thr Leu Ser Asn Tyr Ile Phe Thr Ala Val Phe Leu Ala
1310 1315 1320 1320

Glu Met Thr Val Lys Val Val Ala Leu Gly Trp Cys Phe Gly Glu
1325 1330 1335 1335

Gln Ala Tyr Leu Arg Ser Ser Trp Asn Val Leu Asp Gly Leu Leu
1340 1345 1350 1350

Val Leu Ile Ser Val Ile Asp Ile Leu Val Ser Met Val Ser Asp
1355 1360 1365 1365

Ser Gly Thr Lys Ile Leu Gly Met Leu Arg Val Leu Arg Leu Leu
1370 1375 1380 1380

Arg Thr Leu Arg Pro Leu Arg Val Ile Ser Arg Ala Gln Gly Leu
1385 1390 1395 1395

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Lys Leu Val Val Glu Thr Leu Met Ser Ser Leu Lys Pro Ile Gly
1400 1405 1410

Asn Ile Val Val Ile Cys Cys Ala Phe Phe Ile Ile Phe Gly Ile
1415 1420 1425

Leu Gly Val Gln Leu Phe Lys Gly Lys Phe Phe Val Cys Gln Gly
1430 1435 1440

Glu Asp Thr Arg Asn Ile Thr Asn Lys Ser Asp Cys Ala Glu Ala
1445 1450 1455

Ser Tyr Arg Trp Val Arg His Lys Tyr Asn Phe Asp Asn Leu Gly
1460 1465 1470

Gln Ala Leu Met Ser Leu Phe Val Leu Ala Ser Lys Asp Gly Trp
1475 1480 1485

Val Asp Ile Met Tyr Asp Gly Leu Asp Ala Val Gly Val Asp Gln
1490 1495 1500

Gln Pro Ile Met Asn His Asn Pro Trp Met Leu Leu Tyr Phe Ile
1505 1510 1515

Ser Phe Leu Leu Ile Val Ala Phe Phe Val Leu Asn Met Phe Val
1520 1525 1530

Gly Val Val Val Glu Asn Phe His Lys Cys Arg Gln His Gln Glu
1535 1540 1545

Glu Glu Glu Ala Arg Arg Arg Glu Glu Lys Arg Leu Arg Arg Leu
1550 1555 1560

Glu Lys Lys Arg Arg Asn Leu Met Leu Asp Asp Val Ile Ala Ser
1565 1570 1575

Gly Ser Ser Ala Ser Ala Ala Ser Glu Ala Gln Cys Lys Pro Tyr
1580 1585 1590

Tyr Ser Asp Tyr Ser Arg Phe Arg Leu Leu Val His His Leu Cys
1595 1600 1605

Thr Ser His Tyr Leu Asp Leu Phe Ile Thr Gly Val Ile Gly Leu
1610 1615 1620

Asn Val Val Thr Met Ala Met Glu His Tyr Gln Gln Pro Gln Ile
1625 1630 1635

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Leu Asp Glu Ala Leu Lys Ile Cys Asn Tyr Ile Phe Thr Val Ile
1640 1645 1650

Phe Val Leu Glu Ser Val Phe Lys Leu Val Ala Phe Gly Phe Arg
1655 1660 1665

Arg Phe Phe Gln Asp Arg Trp Asn Gln Leu Asp Leu Ala Ile Val
1670 1675 1680

Leu Leu Ser Ile Met Gly Ile Thr Leu Glu Glu Ile Glu Val Asn
1685 1690 1695

Ala Ser Leu Pro Ile Asn Pro Thr Ile Ile Arg Ile Met Arg Val
1700 1705 1710

Leu Arg Ile Ala Arg Val Leu Lys Leu Leu Lys Met Ala Val Gly
1715 1720 1725

Met Arg Ala Leu Leu Asp Thr Val Met Gln Ala Leu Pro Gln Val
1730 1735 1740

Gly Asn Leu Gly Leu Leu Phe Met Leu Leu Phe Phe Ile Phe Ala
1745 1750 1755

Ala Leu Gly Val Glu Leu Phe Gly Asp Leu Glu Cys Asp Glu Thr
1760 1765 1770

His Pro Cys Glu Gly Leu Gly Arg His Ala Thr Phe Arg Asn Phe
1775 1780 1785

Gly Met Ala Phe Leu Thr Leu Phe Arg Val Ser Thr Gly Asp Asn
1790 1795 1800

Trp Asn Gly Ile Met Lys Asp Thr Leu Arg Asp Cys Asp Gln Glu
1805 1810 1815

Ser Thr Cys Tyr Asn Thr Val Ile Ser Pro Ile Tyr Phe Val Ser
1820 1825 1830

Phe Val Leu Thr Ala Gln Phe Val Leu Val Asn Val Val Ile Ala
1835 1840 1845

Val Leu Met Lys His Leu Glu Glu Ser Asn Lys Glu Ala Lys Glu
1850 1855 1860

Glu Ala Glu Leu Glu Ala Glu Leu Glu Leu Glu Met Lys Thr Leu
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1865	1870	1875
Ser Pro Gln Pro His Ser Pro	Leu Gly Ser Pro Phe	Leu Trp Pro
1880	1885	1890
Gly Val Glu Gly Pro Asp Ser	Pro Asp Ser Pro Lys	Pro Gly Ala
1895	1900	1905
Leu His Pro Ala Ala His Ala	Arg Ser Ala Ser His	Phe Ser Leu
1910	1915	1920
Glu His Pro Thr Asp Arg Gln	Leu Phe Asp Thr Ile	Ser Leu Leu
1925	1930	1935
Ile Gln Gly Ser Leu Glu Trp	Glu Leu Lys Leu Met	Asp Glu Leu
1940	1945	1950
Ala Gly Pro Gly Gly Gln Pro	Ser Ala Phe Pro Ser	Ala Pro Ser
1955	1960	1965
Leu Gly Gly Ser Asp Pro Gln	Ile Pro Leu Ala Glu	Met Glu Ala
1970	1975	1980
Leu Ser Leu Thr Ser Glu Ile	Val Ser Glu Pro Ser	Cys Ser Leu
1985	1990	1995
Ala Leu Thr Asp Asp Ser Leu	Pro Asp Asp Met His	Thr Leu Leu
2000	2005	2010
Leu Ser Ala Leu Glu Ser Asn	Met Gln Pro His Pro	Thr Glu Leu
2015	2020	2025
Pro Gly Pro Asp Leu Leu Thr	Val Arg Lys Ser Gly	Val Ser Arg
2030	2035	2040
Thr His Ser Leu Pro Asn Asp	Ser Tyr Met Cys Arg	His Gly Ser
2045	2050	2055
Thr Ala Glu Gly Pro Leu Gly	His Arg Gly Trp Gly	Leu Pro Lys
2060	2065	2070
Ala Gln Ser Gly Ser Val Leu	Ser Val His Ser Gln	Pro Ala Asp
2075	2080	2085
Thr Ser Tyr Ile Leu Gln Leu	Pro Lys Asp Ala Pro	His Leu Leu
2090	2095	2100

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Gln Pro His Ser Ala Pro Thr Trp Gly Thr Ile Pro Lys Leu Pro
2105 2110 2115

Pro Pro Gly Arg Ser Pro Leu Ala Gln Arg Pro Leu Arg Arg Gln
2120 2125 2130

Ala Ala Ile Arg Thr Asp Ser Leu Asp Val Gln Gly Leu Gly Ser
2135 2140 2145

Arg Glu Asp Leu Leu Ala Glu Val Ser Gly Pro Ser Pro Pro Leu
2150 2155 2160

Ala Arg Ala Tyr Ser Phe Trp Gly Gln Ser Ser Thr Gln Ala Gln
2165 2170 2175

Gln His Ser Arg Ser His Ser Lys Ile Ser Lys His Met Thr Pro
2180 2185 2190

Pro Ala Pro Cys Pro Gly Pro Glu Pro Asn Trp Gly Lys Gly Pro
2195 2200 2205

Pro Glu Thr Arg Ser Ser Leu Glu Leu Asp Thr Glu Leu Ser Trp
2210 2215 2220

Ile Ser Gly Asp Leu Leu Pro Pro Gly Gly Gln Glu Glu Pro Pro
2225 2230 2235

Ser Pro Arg Asp Leu Lys Lys Cys Tyr Ser Val Glu Ala Gln Ser
2240 2245 2250

Cys Gln Arg Arg Pro Thr Ser Trp Leu Asp Glu Gln Arg Arg His
2255 2260 2265

Ser Ile Ala Val Ser Cys Leu Asp Ser Gly Ser Gln Pro His Leu
2270 2275 2280

Gly Thr Asp Pro Ser Asn Leu Gly Gly Gln Pro Leu Gly Gly Pro
2285 2290 2295

Gly Ser Arg Pro Lys Lys Lys Leu Ser Pro Pro Ser Ile Thr Ile
2300 2305 2310

Asp Pro Pro Glu Ser Gln Gly Pro Arg Thr Pro Pro Ser Pro Gly
2315 2320 2325

Ile Cys Leu Arg Arg Arg Ala Pro Ser Ser Asp Ser Lys Asp Pro
2330 2335 2340

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Leu Ala Ser Gly Pro Pro Asp Ser Met Ala Ala Ser Pro Ser Pro
2345 2350 2355

Lys Lys Asp Val Leu Ser Leu Ser Gly Leu Ser Ser Asp Pro Ala
2360 2365 2370

Asp Leu Asp Pro
2375

<210> 16

<211> 2250

<212> PRT

<213> Homo sapiens

<400> 16

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20 25 30

Gly Pro Gly Ser Ala Glu Lys Asp Pro Gly Ser Ala Asp Ser Glu Ala
35 40 45

Glu Gly Leu Pro Tyr Pro Ala Leu Ala Pro Val Val Phe Phe Tyr Leu
50 55 60

Ser Gln Asp Ser Arg Pro Arg Ser Trp Cys Leu Arg Thr Val Cys Asn
65 70 75 80

Pro Trp Phe Glu Arg Ile Ser Met Leu Val Ile Leu Leu Asn Cys Val
85 90 95

Thr Leu Gly Met Phe Arg Pro Cys Glu Asp Ile Ala Cys Asp Ser Gln
100 105 110

Arg Cys Arg Ile Leu Gln Ala Phe Asp Asp Phe Ile Phe Ala Phe Phe
115 120 125

Ala Val Glu Met Val Val Lys Met Val Ala Leu Gly Ile Phe Gly Lys
130 135 140

Lys Cys Tyr Leu Gly Asp Thr Trp Asn Arg Leu Asp Phe Phe Ile Val
145 150 155 160

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Ile Ala Gly Met Leu Glu Tyr Ser Leu Asp Leu Gln Asn Val Ser Phe
165 170 175

Ser Ala Val Arg Thr Val Arg Val Leu Arg Pro Leu Arg Ala Ile Asn
180 185 190

Arg Val Pro Ser Met Arg Ile Leu Val Thr Leu Leu Leu Asp Thr Leu
195 200 205

Pro Met Leu Gly Asn Val Leu Leu Leu Cys Phe Phe Val Phe Phe Ile
210 215 220

Phe Gly Ile Val Gly Val Gln Leu Trp Ala Gly Leu Leu Arg Asn Arg
225 230 235 240

Cys Phe Leu Pro Glu Asn Phe Ser Leu Pro Leu Ser Val Asp Leu Glu
245 250 255

Arg Tyr Tyr Gln Thr Glu Asn Glu Asp Glu Ser Pro Phe Ile Cys Ser
260 265 270

Gln Pro Arg Glu Asn Gly Met Arg Ser Cys Arg Ser Val Pro Thr Leu
275 280 285

Arg Gly Asp Gly Gly Gly Pro Pro Cys Gly Leu Asp Tyr Glu Ala
290 295 300

Tyr Asn Ser Ser Ser Asn Thr Thr Cys Val Asn Trp Asn Gln Tyr Tyr
305 310 315 320

Thr Asn Cys Ser Ala Gly Glu His Asn Pro Phe Lys Gly Ala Ile Asn
325 330 335

Phe Asp Asn Ile Gly Tyr Ala Trp Ile Ala Ile Phe Gln Val Ile Thr
340 345 350

Leu Glu Gly Trp Val Asp Ile Met Tyr Phe Val Met Asp Ala His Ser
355 360 365

Phe Tyr Asn Phe Ile Tyr Phe Ile Leu Leu Ile Ile Val Gly Ser Phe
370 375 380

Phe Met Ile Asn Leu Cys Leu Val Val Ile Ala Thr Gln Phe Ser Glu
385 390 395 400

Thr Lys Gln Arg Glu Ser Gln Leu Met Arg Glu Gln Arg Val Arg Phe
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405

410

415

Leu Ser Asn Ala Ser Thr Leu Ala Ser Phe Ser Glu Pro Gly Ser Cys
420 425 430

Tyr Glu Glu Leu Leu Lys Tyr Leu Val Tyr Ile Leu Arg Lys Ala Ala
435 440 445

Arg Arg Leu Ala Gln Val Ser Arg Ala Ala Gly Val Arg Val Gly Leu
450 455 460

Leu Ser Ser Pro Ala Pro Leu Gly Gly Gln Glu Thr Gln Pro Ser Ser
465 470 475 480

Ser Cys Ser Arg Ser His Arg Arg Leu Ser Val His His Leu Val His
485 490 495

His His His His His His Tyr His Leu Gly Asn Gly Thr Leu
500 505 510

Arg Ala Pro Arg Ala Ser Pro Glu Ile Gln Asp Arg Asp Ala Asn Gly
515 520 525

Ser Arg Arg Leu Met Leu Pro Pro Pro Ser Thr Pro Ala Leu Ser Gly
530 535 540

Ala Pro Pro Gly Gly Ala Glu Ser Val His Ser Phe Tyr His Ala Asp
545 550 555 560

Cys His Leu Glu Pro Val Arg Cys Gln Ala Pro Pro Pro Arg Ser Pro
565 570 575

Ser Glu Ala Ser Gly Arg Thr Val Gly Ser Gly Lys Val Tyr Pro Thr
580 585 590

Val His Thr Ser Pro Pro Glu Thr Leu Lys Glu Lys Ala Leu Val
595 600 605

Glu Val Ala Ala Ser Ser Gly Pro Pro Thr Leu Thr Ser Leu Asn Ile
610 615 620

Pro Pro Gly Pro Tyr Ser Ser Met His Lys Leu Leu Glu Thr Gln Ser
625 630 635 640

Thr Gly Ala Cys Gln Ser Ser Cys Lys Ile Ser Ser Pro Cys Leu Lys
645 650 655

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Ala Asp Ser Gly Ala Cys Gly Pro Asp Ser Cys Pro Tyr Cys Ala Arg
660 665 670

Ala Gly Ala Gly Glu Val Glu Leu Ala Asp Arg Glu Met Pro Asp Ser
675 680 685

Asp Ser Glu Ala Val Tyr Glu Phe Thr Gln Asp Ala Gln His Ser Asp
690 695 700

Leu Arg Asp Pro His Ser Arg Arg Gln Arg Ser Leu Gly Pro Asp Ala
705 710 715 720

Glu Pro Ser Ser Val Leu Ala Phe Trp Arg Leu Ile Cys Asp Thr Phe
725 730 735

Arg Lys Ile Val Asp Ser Lys Tyr Phe Gly Arg Gly Ile Met Ile Ala
740 745 750

Ile Leu Val Asn Thr Leu Ser Met Gly Ile Glu Tyr His Glu Gln Pro
755 760 765

Glu Glu Leu Thr Asn Ala Leu Glu Ile Ser Asn Ile Val Phe Thr Ser
770 775 780

Leu Phe Ala Leu Glu Met Leu Leu Lys Leu Leu Val Tyr Gly Pro Phe
785 790 795 800

Gly Tyr Ile Lys Asn Pro Tyr Asn Ile Phe Asp Gly Val Ile Val Val
805 810 815

Ile Ser Val Trp Glu Ile Val Gly Gln Gln Gly Gly Leu Ser Val
820 825 830

Leu Arg Thr Phe Arg Leu Met Arg Val Leu Lys Leu Val Arg Phe Leu
835 840 845

Pro Ala Leu Gln Arg Gln Leu Val Val Leu Met Lys Thr Met Asp Asn
850 855 860

Val Ala Thr Phe Cys Met Leu Leu Met Leu Phe Ile Phe Ile Phe Ser
865 870 875 880

Ile Leu Gly Met His Leu Phe Gly Cys Lys Phe Ala Ser Glu Arg Asp
885 890 895

Gly Asp Thr Leu Pro Asp Arg Lys Asn Phe Asp Ser Leu Leu Trp Ala
900 905 910

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Ile Val Thr Val Phe Gln Ile Leu Thr Gln Glu Asp Trp Asn Lys Val
915 920 925

Leu Tyr Asn Gly Met Ala Ser Thr Ser Ser Trp Ala Ala Leu Tyr Phe
930 935 940

Ile Ala Leu Met Thr Phe Gly Asn Tyr Val Leu Phe Asn Leu Leu Val
945 950 955 960

Ala Ile Leu Val Glu Gly Phe Gln Ala Glu Gly Asp Ala Asn Lys Ser
965 970 975

Glu Ser Glu Pro Asp Phe Phe Ser Pro Ser Leu Asp Gly Asp Gly Asp
980 985 990

Arg Lys Lys Cys Leu Ala Leu Val Ser Leu Gly Glu His Pro Glu Leu
995 1000 1005

Arg Lys Ser Leu Leu Pro Pro Leu Ile Ile His Thr Ala Ala Thr
1010 1015 1020

Pro Met Ser Leu Pro Lys Ser Thr Ser Thr Gly Leu Gly Glu Ala
1025 1030 1035

Leu Gly Pro Ala Ser Arg Arg Thr Ser Ser Ser Gly Ser Ala Glu
1040 1045 1050

Pro Gly Ala Ala His Glu Met Lys Ser Pro Pro Ser Ala Arg Ser
1055 1060 1065

Ser Pro His Ser Pro Trp Ser Ala Ala Ser Ser Trp Thr Ser Arg
1070 1075 1080

Arg Ser Ser Arg Asn Ser Leu Gly Arg Ala Pro Ser Leu Lys Arg
1085 1090 1095

Arg Ser Pro Ser Gly Glu Arg Arg Ser Leu Leu Ser Gly Glu Gly
1100 1105 1110

Gln Glu Ser Gln Asp Glu Glu Glu Ser Ser Glu Glu Glu Arg Ala
1115 1120 1125

Ser Pro Ala Gly Ser Asp His Arg His Arg Gly Ser Leu Glu Arg
1130 1135 1140

Glu Ala Lys Ser Ser Phe Asp Leu Pro Asp Thr Leu Gln Val Pro
1145 1150 1155

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Gly Leu His Arg Thr Ala Ser Gly Arg Gly Ser Ala Ser Glu His
1160 1165 1170

Gln Asp Cys Asn Gly Lys Ser Ala Ser Gly Arg Leu Ala Arg Ala
1175 1180 1185

Leu Arg Pro Asp Asp Pro Pro Leu Asp Gly Asp Asp Ala Asp Asp
1190 1195 1200

Glu Gly Asn Leu Ser Lys Gly Glu Arg Val Arg Ala Trp Ile Arg
1205 1210 1215

Ala Arg Leu Pro Ala Cys Cys Leu Glu Arg Asp Ser Trp Ser Ala
1220 1225 1230

Tyr Ile Phe Pro Pro Gln Ser Arg Phe Arg Leu Leu Cys His Arg
1235 1240 1245

Ile Ile Thr His Lys Met Phe Asp His Val Val Leu Val Ile Ile
1250 1255 1260

Phe Leu Asn Cys Ile Thr Ile Ala Met Glu Arg Pro Lys Ile Asp
1265 1270 1275

Pro His Ser Ala Glu Arg Ile Phe Leu Thr Leu Ser Asn Tyr Ile
1280 1285 1290

Phe Thr Ala Val Phe Leu Ala Glu Met Thr Val Lys Val Val Ala
1295 1300 1305

Leu Gly Trp Cys Phe Gly Glu Gln Ala Tyr Leu Arg Ser Ser Trp
1310 1315 1320

Asn Val Leu Asp Gly Leu Leu Val Leu Ile Ser Val Ile Asp Ile
1325 1330 1335

Leu Val Ser Met Val Ser Asp Ser Gly Thr Lys Ile Leu Gly Met
1340 1345 1350

Leu Arg Val Leu Arg Leu Leu Arg Thr Leu Arg Pro Leu Arg Val
1355 1360 1365

Ile Ser Arg Ala Gln Gly Leu Lys Leu Val Val Glu Thr Leu Met
1370 1375 1380

Ser Ser Leu Lys Pro Ile Gly Asn Ile Val Val Ile Cys Cys Ala
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1385

1390

1395

Phe Phe Ile Ile Phe Gly Ile Leu Gly Val Gln Leu Phe Lys Gly
 1400 1405 1410

Lys Phe Phe Val Cys Gln Gly Glu Asp Thr Arg Asn Ile Thr Asn
 1415 1420 1425

Lys Ser Asp Cys Ala Glu Ala Ser Tyr Arg Trp Val Arg His Lys
 1430 1435 1440

Tyr Asn Phe Asp Asn Leu Gly Gln Ala Leu Met Ser Leu Phe Val
 1445 1450 1455

Leu Ala Ser Lys Asp Gly Trp Val Asp Ile Met Tyr Asp Gly Leu
 1460 1465 1470

Asp Ala Val Gly Val Asp Gln Gln Pro Ile Met Asn His Asn Pro
 1475 1480 1485

Trp Met Leu Leu Tyr Phe Ile Ser Phe Leu Leu Ile Val Ala Phe
 1490 1495 1500

Phe Val Leu Asn Met Phe Val Gly Val Val Val Glu Asn Phe His
 1505 1510 1515

Lys Cys Arg Gln His Gln Glu Glu Glu Glu Ala Arg Arg Arg Glu
 1520 1525 1530

Glu Lys Arg Leu Arg Arg Leu Glu Lys Lys Arg Arg Ser Lys Glu
 1535 1540 1545

Lys Gln Met Ala Glu Ala Gln Cys Lys Pro Tyr Tyr Ser Asp Tyr
 1550 1555 1560

Ser Arg Phe Arg Leu Leu Val His His Leu Cys Thr Ser His Tyr
 1565 1570 1575

Leu Asp Leu Phe Ile Thr Gly Val Ile Gly Leu Asn Val Val Thr
 1580 1585 1590

Met Ala Met Glu His Tyr Gln Gln Pro Gln Ile Leu Asp Glu Ala
 1595 1600 1605

Leu Lys Ile Cys Asn Tyr Ile Phe Thr Val Ile Phe Val Leu Glu
 1610 1615 1620

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Ser Val Phe Lys Leu Val Ala Phe Gly Phe Arg Arg Phe Phe Gln
1625 1630 1635

Asp Arg Trp Asn Gln Leu Asp Leu Ala Ile Val Leu Leu Ser Ile
1640 1645 1650

Met Gly Ile Thr Leu Glu Glu Ile Glu Val Asn Ala Ser Leu Pro
1655 1660 1665

Ile Asn Pro Thr Ile Ile Arg Ile Met Arg Val Leu Arg Ile Ala
1670 1675 1680

Arg Val Leu Lys Leu Leu Lys Met Ala Val Gly Met Arg Ala Leu
1685 1690 1695

Leu Asp Thr Val Met Gln Ala Leu Pro Gln Val Gly Asn Leu Gly
1700 1705 1710

Leu Leu Phe Met Leu Leu Phe Phe Ile Phe Ala Ala Leu Gly Val
1715 1720 1725

Glu Leu Phe Gly Asp Leu Glu Cys Asp Glu Thr His Pro Cys Glu
1730 1735 1740

Gly Leu Gly Arg His Ala Thr Phe Arg Asn Phe Gly Met Ala Phe
1745 1750 1755

Leu Thr Leu Phe Arg Val Ser Thr Gly Asp Asn Trp Asn Gly Ile
1760 1765 1770

Met Lys Asp Thr Leu Arg Asp Cys Asp Gln Glu Ser Thr Cys Tyr
1775 1780 1785

Asn Thr Val Ile Ser Pro Ile Tyr Phe Val Ser Phe Val Leu Thr
1790 1795 1800

Ala Gln Phe Val Leu Val Asn Val Val Ile Ala Val Leu Met Lys
1805 1810 1815

His Leu Glu Glu Ser Asn Lys Glu Ala Lys Glu Glu Ala Glu Leu
1820 1825 1830

Glu Ala Glu Leu Glu Leu Glu Met Lys Thr Leu Ser Pro Gln Pro
1835 1840 1845

His Ser Pro Leu Gly Ser Pro Phe Leu Trp Pro Gly Val Glu Gly
1850 1855 1860

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Pro Asp Ser Pro Asp Ser Pro Lys Pro Gly Ala Leu His Pro Ala
1865 1870 1875

Ala His Ala Arg Ser Ala Ser His Phe Ser Leu Glu His Pro Thr
1880 1885 1890

Met Gln Pro His Pro Thr Glu Leu Pro Gly Pro Asp Leu Leu Thr
1895 1900 1905

Val Arg Lys Ser Gly Val Ser Arg Thr His Ser Leu Pro Asn Asp
1910 1915 1920

Ser Tyr Met Cys Arg His Gly Ser Thr Ala Glu Gly Pro Leu Gly
1925 1930 1935

His Arg Gly Trp Gly Leu Pro Lys Ala Gln Ser Gly Ser Val Leu
1940 1945 1950

Ser Val His Ser Gln Pro Ala Asp Thr Ser Tyr Ile Leu Gln Leu
1955 1960 1965

Pro Lys Asp Ala Pro His Leu Leu Gln Pro His Ser Ala Pro Thr
1970 1975 1980

Trp Gly Thr Ile Pro Lys Leu Pro Pro Pro Gly Arg Ser Pro Leu
1985 1990 1995

Ala Gln Arg Pro Leu Arg Arg Gln Ala Ala Ile Arg Thr Asp Ser
2000 2005 2010

Leu Asp Val Gln Gly Leu Gly Ser Arg Glu Asp Leu Leu Ala Glu
2015 2020 2025

Val Ser Gly Pro Ser Pro Pro Leu Ala Arg Ala Tyr Ser Phe Trp
2030 2035 2040

Gly Gln Ser Ser Thr Gln Ala Gln Gln His Ser Arg Ser His Ser
2045 2050 2055

Lys Ile Ser Lys His Met Thr Pro Pro Ala Pro Cys Pro Gly Pro
2060 2065 2070

Glu Pro Asn Trp Gly Lys Gly Pro Pro Glu Thr Arg Ser Ser Leu
2075 2080 2085

Glu Leu Asp Thr Glu Leu Ser Trp Ile Ser Gly Asp Leu Leu Pro
2090 2095 2100

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Pro Gly Gly Gln Glu Glu Pro Pro Ser Pro Arg Asp Leu Lys Lys
2105 2110 2115

Cys Tyr Ser Val Glu Ala Gln Ser Cys Gln Arg Arg Pro Thr Ser
2120 2125 2130

Trp Leu Asp Glu Gln Arg Arg His Ser Ile Ala Val Ser Cys Leu
2135 2140 2145

Asp Ser Gly Ser Gln Pro His Leu Gly Thr Asp Pro Ser Asn Leu
2150 2155 2160

Gly Gly Gln Pro Leu Gly Gly Pro Gly Ser Arg Pro Lys Lys Lys
2165 2170 2175

Leu Ser Pro Pro Ser Ile Thr Ile Asp Pro Pro Glu Ser Gln Gly
2180 2185 2190

Pro Arg Thr Pro Pro Ser Pro Gly Ile Cys Leu Arg Arg Arg Ala
2195 2200 2205

Pro Ser Ser Asp Ser Lys Asp Pro Leu Ala Ser Gly Pro Pro Asp
2210 2215 2220

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Arg Ser Phe Met Arg Leu Asn Asp Leu Ser Gly Ala Gly Gly Arg Pro
20 25 30

Gly Pro Gly Ser Ala Glu Lys Asp Pro Gly Ser Ala Asp Ser Glu Ala
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35

40

45

Glu Gly Leu Pro Tyr Pro Ala Leu Ala Pro Val Val Phe Phe Tyr Leu
50 55 60

Ser Gln Asp Ser Arg Pro Arg Ser Trp Cys Leu Arg Thr Val Cys Asn
65 70 75 80

Pro Trp Phe Glu Arg Ile Ser Met Leu Val Ile Leu Leu Asn Cys Val
85 90 95

Thr Leu Gly Met Phe Arg Pro Cys Glu Asp Ile Ala Cys Asp Ser Gln
100 105 110

Arg Cys Arg Ile Leu Gln Ala Phe Asp Asp Phe Ile Phe Ala Phe Phe
115 120 125

Ala Val Glu Met Val Val Lys Met Val Ala Leu Gly Ile Phe Gly Lys
130 135 140

Lys Cys Tyr Leu Gly Asp Thr Trp Asn Arg Leu Asp Phe Phe Ile Val
145 150 155 160

Ile Ala Gly Met Leu Glu Tyr Ser Leu Asp Leu Gln Asn Val Ser Phe
165 170 175

Ser Ala Val Arg Thr Val Arg Val Leu Arg Pro Leu Arg Ala Ile Asn
180 185 190

Arg Val Pro Ser Met Arg Ile Leu Val Thr Leu Leu Leu Asp Thr Leu
195 200 205

Pro Met Leu Gly Asn Val Leu Leu Leu Cys Phe Phe Val Phe Phe Ile
210 215 220

Phe Gly Ile Val Gly Val Gln Leu Trp Ala Gly Leu Leu Arg Asn Arg
225 230 235 240

Cys Phe Leu Pro Glu Asn Phe Ser Leu Pro Leu Ser Val Asp Leu Glu
245 250 255

Arg Tyr Tyr Gln Thr Glu Asn Glu Asp Glu Ser Pro Phe Ile Cys Ser
260 265 270

Gln Pro Arg Glu Asn Gly Met Arg Ser Cys Arg Ser Val Pro Thr Leu
275 280 285

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Arg Gly Asp Gly Gly Gly Pro Pro Cys Gly Leu Asp Tyr Glu Ala
290 295 300

Tyr Asn Ser Ser Ser Asn Thr Thr Cys Val Asn Trp Asn Gln Tyr Tyr
305 310 315 320

Thr Asn Cys Ser Ala Gly Glu His Asn Pro Phe Lys Gly Ala Ile Asn
325 330 335

Phe Asp Asn Ile Gly Tyr Ala Trp Ile Ala Ile Phe Gln Val Ile Thr
340 345 350

Leu Glu Gly Trp Val Asp Ile Met Tyr Phe Val Met Asp Ala His Ser
355 360 365

Phe Tyr Asn Phe Ile Tyr Phe Ile Leu Leu Ile Ile Val Gly Ser Phe
370 375 380

Phe Met Ile Asn Leu Cys Leu Val Val Ile Ala Thr Gln Phe Ser Glu
385 390 395 400

Thr Lys Gln Arg Glu Ser Gln Leu Met Arg Glu Gln Arg Val Arg Phe
405 410 415

Leu Ser Asn Ala Ser Thr Leu Ala Ser Phe Ser Glu Pro Gly Ser Cys
420 425 430

Tyr Glu Glu Leu Leu Lys Tyr Leu Val Tyr Ile Leu Arg Lys Ala Ala
435 440 445

Arg Arg Leu Ala Gln Val Ser Arg Ala Ala Gly Val Arg Val Gly Leu
450 455 460

Leu Ser Ser Pro Ala Pro Leu Gly Gly Gln Glu Thr Gln Pro Ser Ser
465 470 475 480

Ser Cys Ser Arg Ser His Arg Arg Leu Ser Val His His Leu Val His
485 490 495

His His His His His His Tyr His Leu Gly Asn Gly Thr Leu
500 505 510

Arg Ala Pro Arg Ala Ser Pro Glu Ile Gln Asp Arg Asp Ala Asn Gly
515 520 525

Ser Arg Arg Leu Met Leu Pro Pro Pro Ser Thr Pro Ala Leu Ser Gly
530 535 540

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Ala Pro Pro Gly Gly Ala Glu Ser Val His Ser Phe Tyr His Ala Asp
545 550 555 560

Cys His Leu Glu Pro Val Arg Cys Gln Ala Pro Pro Pro Arg Ser Pro
565 570 575

Ser Glu Ala Ser Gly Arg Thr Val Gly Ser Gly Lys Val Tyr Pro Thr
580 585 590

Val His Thr Ser Pro Pro Pro Glu Thr Leu Lys Glu Lys Ala Leu Val
595 600 605

Glu Val Ala Ala Ser Ser Gly Pro Pro Thr Leu Thr Ser Leu Asn Ile
610 615 620

Pro Pro Gly Pro Tyr Ser Ser Met His Lys Leu Leu Glu Thr Gln Ser
625 630 635 640

Thr Gly Ala Cys Gln Ser Ser Cys Lys Ile Ser Ser Pro Cys Leu Lys
645 650 655

Ala Asp Ser Gly Ala Cys Gly Pro Asp Ser Cys Pro Tyr Cys Ala Arg
660 665 670

Ala Gly Ala Gly Glu Val Glu Leu Ala Asp Arg Glu Met Pro Asp Ser
675 680 685

Asp Ser Glu Ala Val Tyr Glu Phe Thr Gln Asp Ala Gln His Ser Asp
690 695 700

Leu Arg Asp Pro His Ser Arg Arg Gln Arg Ser Leu Gly Pro Asp Ala
705 710 715 720

Glu Pro Ser Ser Val Leu Ala Phe Trp Arg Leu Ile Cys Asp Thr Phe
725 730 735

Arg Lys Ile Val Asp Ser Lys Tyr Phe Gly Arg Gly Ile Met Ile Ala
740 745 750

Ile Leu Val Asn Thr Leu Ser Met Gly Ile Glu Tyr His Glu Gln Pro
755 760 765

Glu Glu Leu Thr Asn Ala Leu Glu Ile Ser Asn Ile Val Phe Thr Ser
770 775 780

Leu Phe Ala Leu Glu Met Leu Leu Lys Leu Leu Val Tyr Gly Pro Phe
785 790 795 800

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Gly Tyr Ile Lys Asn Pro Tyr Asn Ile Phe Asp Gly Val Ile Val Val
805 810 815

Ile Ser Val Trp Glu Ile Val Gly Gln Gln Gly Gly Leu Ser Val
820 825 830

Leu Arg Thr Phe Arg Leu Met Arg Val Leu Lys Leu Val Arg Phe Leu
835 840 845

Pro Ala Leu Gln Arg Gln Leu Val Val Leu Met Lys Thr Met Asp Asn
850 855 860

Val Ala Thr Phe Cys Met Leu Leu Met Leu Phe Ile Phe Ile Phe Ser
865 870 875 880

Ile Leu Gly Met His Leu Phe Gly Cys Lys Phe Ala Ser Glu Arg Asp
885 890 895

Gly Asp Thr Leu Pro Asp Arg Lys Asn Phe Asp Ser Leu Leu Trp Ala
900 905 910

Ile Val Thr Val Phe Gln Ile Leu Thr Gln Glu Asp Trp Asn Lys Val
915 920 925

Leu Tyr Asn Gly Met Ala Ser Thr Ser Ser Trp Ala Ala Leu Tyr Phe
930 935 940

Ile Ala Leu Met Thr Phe Gly Asn Tyr Val Leu Phe Asn Leu Leu Val
945 950 955 960

Ala Ile Leu Val Glu Gly Phe Gln Ala Glu Gly Asp Ala Asn Lys Ser
965 970 975

Glu Ser Glu Pro Asp Phe Phe Ser Pro Ser Leu Asp Gly Asp Gly Asp
980 985 990

Arg Lys Lys Cys Leu Ala Leu Val Ser Leu Gly Glu His Pro Glu Leu
995 1000 1005

Arg Lys Ser Leu Leu Pro Pro Leu Ile Ile His Thr Ala Ala Thr
1010 1015 1020

Pro Met Ser Leu Pro Lys Ser Thr Ser Thr Gly Leu Gly Glu Ala
1025 1030 1035

Leu Gly Pro Ala Ser Arg Arg Thr Ser Ser Ser Gly Ser Ala Glu
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1040 1045 1050
Pro Gly Ala Ala His Glu Met Lys Ser Pro Pro Ser Ala Arg Ser
1055 1060 1065

Ser Pro His Ser Pro Trp Ser Ala Ala Ser Ser Trp Thr Ser Arg
1070 1075 1080

Arg Ser Ser Arg Asn Ser Leu Gly Arg Ala Pro Ser Leu Lys Arg
1085 1090 1095

Arg Ser Pro Ser Gly Glu Arg Arg Ser Leu Leu Ser Gly Glu Gly
1100 1105 1110

Gln Glu Ser Gln Asp Glu Glu Glu Ser Ser Glu Glu Glu Arg Ala
1115 1120 1125

Ser Pro Ala Gly Ser Asp His Arg His Arg Gly Ser Leu Glu Arg
1130 1135 1140

Glu Ala Lys Ser Ser Phe Asp Leu Pro Asp Thr Leu Gln Val Pro
1145 1150 1155

Gly Leu His Arg Thr Ala Ser Gly Arg Gly Ser Ala Ser Glu His
1160 1165 1170

Gln Asp Cys Asn Gly Lys Ser Ala Ser Gly Arg Leu Ala Arg Ala
1175 1180 1185

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1190 1195 1200

Glu Gly Asn Leu Ser Lys Gly Glu Arg Val Arg Ala Trp Ile Arg
1205 1210 1215

Ala Arg Leu Pro Ala Cys Cys Leu Glu Arg Asp Ser Trp Ser Ala
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Tyr Ile Phe Pro Pro Gln Ser Arg Phe Arg Leu Leu Cys His Arg
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Ile Ile Thr His Lys Met Phe Asp His Val Val Leu Val Ile Ile
1250 1255 1260

Phe Leu Asn Cys Ile Thr Ile Ala Met Glu Arg Pro Lys Ile Asp
1265 1270 1275

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Pro His Ser Ala Glu Arg Ile Phe Leu Thr Leu Ser Asn Tyr Ile
 1280 1285 1290

Phe Thr Ala Val Phe Leu Ala Glu Met Thr Val Lys Val Val Ala
 1295 1300 1305

Leu Gly Trp Cys Phe Gly Glu Gln Ala Tyr Leu Arg Ser Ser Trp
 1310 1315 1320

Asn Val Leu Asp Gly Leu Leu Val Leu Ile Ser Val Ile Asp Ile
 1325 1330 1335

Leu Val Ser Met Val Ser Asp Ser Gly Thr Lys Ile Leu Gly Met
 1340 1345 1350

Leu Arg Val Leu Arg Leu Leu Arg Thr Leu Arg Pro Leu Arg Val
 1355 1360 1365

Ile Ser Arg Ala Gln Gly Leu Lys Leu Val Val Glu Thr Leu Met
 1370 1375 1380

Ser Ser Leu Lys Pro Ile Gly Asn Ile Val Val Ile Cys Cys Ala
 1385 1390 1395

Phe Phe Ile Ile Phe Gly Ile Leu Gly Val Gln Leu Phe Lys Gly
 1400 1405 1410

Lys Phe Phe Val Cys Gln Gly Glu Asp Thr Arg Asn Ile Thr Asn
 1415 1420 1425

Lys Ser Asp Cys Ala Glu Ala Ser Tyr Arg Trp Val Arg His Lys
 1430 1435 1440

Tyr Asn Phe Asp Asn Leu Gly Gln Ala Leu Met Ser Leu Phe Val
 1445 1450 1455

Leu Ala Ser Lys Asp Gly Trp Val Asp Ile Met Tyr Asp Gly Leu
 1460 1465 1470

Asp Ala Val Gly Val Asp Gln Gln Pro Ile Met Asn His Asn Pro
 1475 1480 1485

Trp Met Leu Leu Tyr Phe Ile Ser Phe Leu Leu Ile Val Ala Phe
 1490 1495 1500

Phe Val Leu Asn Met Phe Val Gly Val Val Val Glu Asn Phe His
 1505 1510 1515

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Lys Cys Arg Gln His Gln Glu Glu Glu Ala Arg Arg Arg Glu
1520 1525 1530

Glu Lys Arg Leu Arg Arg Leu Glu Lys Lys Arg Arg Lys Ala Gln
1535 1540 1545

Cys Lys Pro Tyr Tyr Ser Asp Tyr Ser Arg Phe Arg Leu Leu Val
1550 1555 1560

His His Leu Cys Thr Ser His Tyr Leu Asp Leu Phe Ile Thr Gly
1565 1570 1575

Val Ile Gly Leu Asn Val Val Thr Met Ala Met Glu His Tyr Gln
1580 1585 1590

Gln Pro Gln Ile Leu Asp Glu Ala Leu Lys Ile Cys Asn Tyr Ile
1595 1600 1605

Phe Thr Val Ile Phe Val Leu Glu Ser Val Phe Lys Leu Val Ala
1610 1615 1620

Phe Gly Phe Arg Arg Phe Phe Gln Asp Arg Trp Asn Gln Leu Asp
1625 1630 1635

Leu Ala Ile Val Leu Leu Ser Ile Met Gly Ile Thr Leu Glu Glu
1640 1645 1650

Ile Glu Val Asn Ala Ser Leu Pro Ile Asn Pro Thr Ile Ile Arg
1655 1660 1665

Ile Met Arg Val Leu Arg Ile Ala Arg Val Leu Lys Leu Leu Lys
1670 1675 1680

Met Ala Val Gly Met Arg Ala Leu Leu Asp Thr Val Met Gln Ala
1685 1690 1695

Leu Pro Gln Val Gly Asn Leu Gly Leu Leu Phe Met Leu Leu Phe
1700 1705 1710

Phe Ile Phe Ala Ala Leu Gly Val Glu Leu Phe Gly Asp Leu Glu
1715 1720 1725

Cys Asp Glu Thr His Pro Cys Glu Gly Leu Gly Arg His Ala Thr
1730 1735 1740

Phe Arg Asn Phe Gly Met Ala Phe Leu Thr Leu Phe Arg Val Ser
1745 1750 1755

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Thr Gly Asp Asn Trp Asn Gly Ile Met Lys Asp Thr Leu Arg Asp
1760 1765 1770

Cys Asp Gln Glu Ser Thr Cys Tyr Asn Thr Val Ile Ser Pro Ile
1775 1780 1785

Tyr Phe Val Ser Phe Val Leu Thr Ala Gln Phe Val Leu Val Asn
1790 1795 1800

Val Val Ile Ala Val Leu Met Lys His Leu Glu Glu Ser Asn Lys
1805 1810 1815

Glu Ala Lys Glu Glu Ala Glu Leu Glu Ala Glu Leu Glu Leu Glu
1820 1825 1830

Met Lys Thr Leu Ser Pro Gln Pro His Ser Pro Leu Gly Ser Pro
1835 1840 1845

Phe Leu Trp Pro Gly Val Glu Gly Pro Asp Ser Pro Asp Ser Pro
1850 1855 1860

Lys Pro Gly Ala Leu His Pro Ala Ala His Ala Arg Ser Ala Ser
1865 1870 1875

His Phe Ser Leu Glu His Pro Thr Met Gln Pro His Pro Thr Glu
1880 1885 1890

Leu Pro Gly Pro Asp Leu Leu Thr Val Arg Lys Ser Gly Val Ser
1895 1900 1905

Arg Thr His Ser Leu Pro Asn Asp Ser Tyr Met Cys Arg His Gly
1910 1915 1920

Ser Thr Ala Glu Gly Pro Leu Gly His Arg Gly Trp Gly Leu Pro
1925 1930 1935

Lys Ala Gln Ser Gly Ser Val Leu Ser Val His Ser Gln Pro Ala
1940 1945 1950

Asp Thr Ser Tyr Ile Leu Gln Leu Pro Lys Asp Ala Pro His Leu
1955 1960 1965

Leu Gln Pro His Ser Ala Pro Thr Trp Gly Thr Ile Pro Lys Leu
1970 1975 1980

Pro Pro Pro Gly Arg Ser Pro Leu Ala Gln Arg Pro Leu Arg Arg
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1985

1990

1995

Gln Ala Ala Ile Arg Thr Asp Ser Leu Asp Val Gln Gly Leu Gly
 2000 2005 2010

Ser Arg Glu Asp Leu Leu Ala Glu Val Ser Gly Pro Ser Pro Pro
 2015 2020 2025

Leu Ala Arg Ala Tyr Ser Phe Trp Gly Gln Ser Ser Thr Gln Ala
 2030 2035 2040

Gln Gln His Ser Arg Ser His Ser Lys Ile Ser Lys His Met Thr
 2045 2050 2055

Pro Pro Ala Pro Cys Pro Gly Pro Glu Pro Asn Trp Gly Lys Gly
 2060 2065 2070

Pro Pro Glu Thr Arg Ser Ser Leu Glu Leu Asp Thr Glu Leu Ser
 2075 2080 2085

Trp Ile Ser Gly Asp Leu Leu Pro Pro Gly Gly Gln Glu Glu Pro
 2090 2095 2100

Pro Ser Pro Arg Asp Leu Lys Lys Cys Tyr Ser Val Glu Ala Gln
 2105 2110 2115

Ser Cys Gln Arg Arg Pro Thr Ser Trp Leu Asp Glu Gln Arg Arg
 2120 2125 2130

His Ser Ile Ala Val Ser Cys Leu Asp Ser Gly Ser Gln Pro His
 2135 2140 2145

Leu Gly Thr Asp Pro Ser Asn Leu Gly Gly Gln Pro Leu Gly Gly
 2150 2155 2160

Pro Gly Ser Arg Pro Lys Lys Lys Leu Ser Pro Pro Ser Ile Thr
 2165 2170 2175

Ile Asp Pro Pro Glu Ser Gln Gly Pro Arg Thr Pro Pro Ser Pro
 2180 2185 2190

Gly Ile Cys Leu Arg Arg Arg Ala Pro Ser Ser Asp Ser Lys Asp
 2195 2200 2205

Pro Leu Ala Ser Gly Pro Pro Asp Ser Met Ala Ala Ser Pro Ser
 2210 2215 2220

pha4262.ST25.txt
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Ala Asp Leu Asp Pro
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<213> Homo sapiens

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20 25 30

Gly Pro Gly Ser Ala Glu Lys Asp Pro Gly Ser Ala Asp Ser Glu Ala
35 40 45

Glu Gly Leu Pro Tyr Pro Ala Leu Ala Pro Val Val Phe Phe Tyr Leu
50 55 60

Ser Gln Asp Ser Arg Pro Arg Ser Trp Cys Leu Arg Thr Val Cys Asn
65 70 75 80

Pro Trp Phe Glu Arg Ile Ser Met Leu Val Ile Leu Leu Asn Cys Val
85 90 95

Thr Leu Gly Met Phe Arg Pro Cys Glu Asp Ile Ala Cys Asp Ser Gln
100 105 110

Arg Cys Arg Ile Leu Gln Ala Phe Asp Asp Phe Ile Phe Ala Phe Phe
115 120 125

Ala Val Glu Met Val Val Lys Met Val Ala Leu Gly Ile Phe Gly Lys
130 135 140

Lys Cys Tyr Leu Gly Asp Thr Trp Asn Arg Leu Asp Phe Phe Ile Val
145 150 155 160

Ile Ala Gly Met Leu Glu Tyr Ser Leu Asp Leu Gln Asn Val Ser Phe
165 170 175

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Ser Ala Val Arg Thr Val Arg Val Leu Arg Pro Leu Arg Ala Ile Asn
180 185 190

Arg Val Pro Ser Met Arg Ile Leu Val Thr Leu Leu Leu Asp Thr Leu
195 200 205

Pro Met Leu Gly Asn Val Leu Leu Leu Cys Phe Phe Val Phe Phe Ile
210 215 220

Phe Gly Ile Val Gly Val Gln Leu Trp Ala Gly Leu Leu Arg Asn Arg
225 230 235 240

Cys Phe Leu Pro Glu Asn Phe Ser Leu Pro Leu Ser Val Asp Leu Glu
245 250 255

Arg Tyr Tyr Gln Thr Glu Asn Glu Asp Glu Ser Pro Phe Ile Cys Ser
260 265 270

Gln Pro Arg Glu Asn Gly Met Arg Ser Cys Arg Ser Val Pro Thr Leu
275 280 285

Arg Gly Asp Gly Gly Gly Pro Pro Cys Gly Leu Asp Tyr Glu Ala
290 295 300

Tyr Asn Ser Ser Ser Asn Thr Thr Cys Val Asn Trp Asn Gln Tyr Tyr
305 310 315 320

Thr Asn Cys Ser Ala Gly Glu His Asn Pro Phe Lys Gly Ala Ile Asn
325 330 335

Phe Asp Asn Ile Gly Tyr Ala Trp Ile Ala Ile Phe Gln Val Ile Thr
340 345 350

Leu Glu Gly Trp Val Asp Ile Met Tyr Phe Val Met Asp Ala His Ser
355 360 365

Phe Tyr Asn Phe Ile Tyr Phe Ile Leu Leu Ile Ile Val Gly Ser Phe
370 375 380

Phe Met Ile Asn Leu Cys Leu Val Val Ile Ala Thr Gln Phe Ser Glu
385 390 395 400

Thr Lys Gln Arg Glu Ser Gln Leu Met Arg Glu Gln Arg Val Arg Phe
405 410 415

Leu Ser Asn Ala Ser Thr Leu Ala Ser Phe Ser Glu Pro Gly Ser Cys
420 425 430

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Tyr Glu Glu Leu Leu Lys Tyr Leu Val Tyr Ile Leu Arg Lys Ala Ala
435 440 445

Arg Arg Leu Ala Gln Val Ser Arg Ala Ala Gly Val Arg Val Gly Leu
450 455 460

Leu Ser Ser Pro Ala Pro Leu Gly Gly Gln Glu Thr Gln Pro Ser Ser
465 470 475 480

Ser Cys Ser Arg Ser His Arg Arg Leu Ser Val His His Leu Val His
485 490 495

His His His His His His Tyr His Leu Gly Asn Gly Thr Leu
500 505 510

Arg Ala Pro Arg Ala Ser Pro Glu Ile Gln Asp Arg Asp Ala Asn Gly
515 520 525

Ser Arg Arg Leu Met Leu Pro Pro Pro Ser Thr Pro Ala Leu Ser Gly
530 535 540

Ala Pro Pro Gly Gly Ala Glu Ser Val His Ser Phe Tyr His Ala Asp
545 550 555 560

Cys His Leu Glu Pro Val Arg Cys Gln Ala Pro Pro Pro Arg Ser Pro
565 570 575

Ser Glu Ala Ser Gly Arg Thr Val Gly Ser Gly Lys Val Tyr Pro Thr
580 585 590

Val His Thr Ser Pro Pro Pro Glu Thr Leu Lys Glu Lys Ala Leu Val
595 600 605

Glu Val Ala Ala Ser Ser Gly Pro Pro Thr Leu Thr Ser Leu Asn Ile
610 615 620

Pro Pro Gly Pro Tyr Ser Ser Met His Lys Leu Leu Glu Thr Gln Ser
625 630 635 640

Thr Gly Ala Cys Gln Ser Ser Cys Lys Ile Ser Ser Pro Cys Leu Lys
645 650 655

Ala Asp Ser Gly Ala Cys Gly Pro Asp Ser Cys Pro Tyr Cys Ala Arg
660 665 670

Ala Gly Ala Gly Glu Val Glu Leu Ala Asp Arg Glu Met Pro Asp Ser
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675

680

685

Asp Ser Glu Ala Val Tyr Glu Phe Thr Gln Asp Ala Gln His Ser Asp
 690 695 700

Leu Arg Asp Pro His Ser Arg Arg Gln Arg Ser Leu Gly Pro Asp Ala
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Glu Pro Ser Ser Val Leu Ala Phe Trp Arg Leu Ile Cys Asp Thr Phe
 725 730 735

Arg Lys Ile Val Asp Ser Lys Tyr Phe Gly Arg Gly Ile Met Ile Ala
 740 745 750

Ile Leu Val Asn Thr Leu Ser Met Gly Ile Glu Tyr His Glu Gln Pro
 755 760 765

Glu Glu Leu Thr Asn Ala Leu Glu Ile Ser Asn Ile Val Phe Thr Ser
 770 775 780

Leu Phe Ala Leu Glu Met Leu Leu Lys Leu Leu Val Tyr Gly Pro Phe
 785 790 795 800

Gly Tyr Ile Lys Asn Pro Tyr Asn Ile Phe Asp Gly Val Ile Val Val
 805 810 815

Ile Ser Val Trp Glu Ile Val Gly Gln Gln Gly Gly Leu Ser Val
 820 825 830

Leu Arg Thr Phe Arg Leu Met Arg Val Leu Lys Leu Val Arg Phe Leu
 835 840 845

Pro Ala Leu Gln Arg Gln Leu Val Val Leu Met Lys Thr Met Asp Asn
 850 855 860

Val Ala Thr Phe Cys Met Leu Leu Met Leu Phe Ile Phe Ile Phe Ser
 865 870 875 880

Ile Leu Gly Met His Leu Phe Gly Cys Lys Phe Ala Ser Glu Arg Asp
 885 890 895

Gly Asp Thr Leu Pro Asp Arg Lys Asn Phe Asp Ser Leu Leu Trp Ala
 900 905 910

Ile Val Thr Val Phe Gln Ile Leu Thr Gln Glu Asp Trp Asn Lys Val
 915 920 925

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Leu Tyr Asn Gly Met Ala Ser Thr Ser Ser Trp Ala Ala Leu Tyr Phe
930 935 940

Ile Ala Leu Met Thr Phe Gly Asn Tyr Val Leu Phe Asn Leu Leu Val
945 950 955 960

Ala Ile Leu Val Glu Gly Phe Gln Ala Glu Gly Asp Ala Asn Lys Ser
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Glu Ser Glu Pro Asp Phe Phe Ser Pro Ser Leu Asp Gly Asp Gly Asp
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Arg Lys Lys Cys Leu Ala Leu Val Ser Leu Gly Glu His Pro Glu Leu
995 1000 1005

Arg Lys Ser Leu Leu Pro Pro Leu Ile Ile His Thr Ala Ala Thr
1010 1015 1020

Pro Met Ser Leu Pro Lys Ser Thr Ser Thr Gly Leu Gly Glu Ala
1025 1030 1035

Leu Gly Pro Ala Ser Arg Arg Thr Ser Ser Ser Gly Ser Ala Glu
1040 1045 1050

Pro Gly Ala Ala His Glu Met Lys Ser Pro Pro Ser Ala Arg Ser
1055 1060 1065

Ser Pro His Ser Pro Trp Ser Ala Ala Ser Ser Trp Thr Ser Arg
1070 1075 1080

Arg Ser Ser Arg Asn Ser Leu Gly Arg Ala Pro Ser Leu Lys Arg
1085 1090 1095

Arg Ser Pro Ser Gly Glu Arg Arg Ser Leu Leu Ser Gly Glu Gly
1100 1105 1110

Gln Glu Ser Gln Asp Glu Glu Glu Ser Ser Glu Glu Glu Arg Ala
1115 1120 1125

Ser Pro Ala Gly Ser Asp His Arg His Arg Gly Ser Leu Glu Arg
1130 1135 1140

Glu Ala Lys Ser Ser Phe Asp Leu Pro Asp Thr Leu Gln Val Pro
1145 1150 1155

Gly Leu His Arg Thr Ala Ser Gly Arg Gly Ser Ala Ser Glu His
1160 1165 1170

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Gln Asp Cys Asn Gly Lys Ser Ala Ser Gly Arg Leu Ala Arg Ala
1175 1180 1185

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Glu Gly Asn Leu
1205

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<211> 2353

<212> PRT

<213> Homo sapiens

<400> 19

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Pro Gly Ala Pro Gly Arg Glu Ala Glu Arg Gly Ser Glu Leu Gly Val
35 40 45

Ser Pro Ser Glu Ser Pro Ala Ala Glu Arg Gly Ala Glu Leu Gly Ala
50 55 60

Asp Glu Glu Gln Arg Val Pro Tyr Pro Ala Leu Ala Ala Thr Val Phe
65 70 75 80

Phe Cys Leu Gly Gln Thr Thr Arg Pro Arg Ser Trp Cys Leu Arg Leu
85 90 95

Val Cys Asn Pro Trp Phe Glu His Val Ser Met Leu Val Ile Met Leu
100 105 110

Asn Cys Val Thr Leu Gly Met Phe Arg Pro Cys Glu Asp Val Glu Cys
115 120 125

Gly Ser Glu Arg Cys Asn Ile Leu Glu Ala Phe Asp Ala Phe Ile Phe
130 135 140

Ala Phe Phe Ala Val Glu Met Val Ile Lys Met Val Ala Leu Gly Leu
145 150 155 160

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Phe Gly Gln Lys Cys Tyr Leu Gly Asp Thr Trp Asn Arg Leu Asp Phe
165 170 175

Phe Ile Val Val Ala Gly Met Met Glu Tyr Ser Leu Asp Gly His Asn
180 185 190

Val Ser Leu Ser Ala Ile Arg Thr Val Arg Val Leu Arg Pro Leu Arg
195 200 205

Ala Ile Asn Arg Val Pro Ser Met Arg Ile Leu Val Thr Leu Leu Leu
210 215 220

Asp Thr Leu Pro Met Leu Gly Asn Val Leu Leu Leu Cys Phe Phe Val
225 230 235 240

Phe Phe Ile Phe Gly Ile Val Gly Val Gln Leu Trp Ala Gly Leu Leu
245 250 255

Arg Asn Arg Cys Phe Leu Asp Ser Ala Phe Val Arg Asn Asn Asn Leu
260 265 270

Thr Phe Leu Arg Pro Tyr Tyr Gln Thr Glu Glu Gly Glu Glu Asn Pro
275 280 285

Phe Ile Cys Ser Ser Arg Arg Asp Asn Gly Met Gln Lys Cys Ser His
290 295 300

Ile Pro Gly Arg Arg Glu Leu Arg Met Pro Cys Thr Leu Gly Trp Glu
305 310 315 320

Ala Tyr Thr Gln Pro Gln Ala Glu Gly Val Gly Ala Ala Arg Asn Ala
325 330 335

Cys Ile Asn Trp Asn Gln Tyr Tyr Asn Val Cys Arg Ser Gly Asp Ser
340 345 350

Asn Pro His Asn Gly Ala Ile Asn Phe Asp Asn Ile Gly Tyr Ala Trp
355 360 365

Ile Ala Ile Phe Gln Val Ile Thr Leu Glu Gly Trp Val Asp Ile Met
370 375 380

Tyr Tyr Val Met Asp Ala His Ser Phe Tyr Asn Phe Ile Tyr Phe Ile
385 390 395 400

Leu Leu Ile Ile Val Gly Ser Phe Phe Met Ile Asn Leu Cys Leu Val
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405

410

415

Val Ile Ala Thr Gln Phe Ser Glu Thr Lys Gln Arg Glu Ser Gln Leu
420 425 430

Met Arg Glu Gln Arg Ala Arg His Leu Ser Asn Asp Ser Thr Leu Ala
435 440 445

Ser Phe Ser Glu Pro Gly Ser Cys Tyr Glu Glu Leu Leu Lys Tyr Val
450 455 460

Gly His Ile Phe Arg Lys Val Lys Arg Arg Ser Leu Arg Leu Tyr Ala
465 470 475 480

Arg Trp Gln Ser Arg Trp Arg Lys Lys Val Asp Pro Ser Ala Val Gln
485 490 495

Gly Gln Gly Pro Gly His Arg Gln Arg Arg Ala Gly Arg His Thr Ala
500 505 510

Ser Val His His Leu Val Tyr His His His His His His His His
515 520 525

Tyr His Phe Ser His Gly Ser Pro Arg Arg Pro Gly Pro Glu Pro Gly
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Ala Cys Asp Thr Arg Leu Val Arg Ala Gly Ala Pro Pro Ser Pro Pro
545 550 555 560

Ser Pro Gly Arg Gly Pro Pro Asp Ala Glu Ser Val His Ser Ile Tyr
565 570 575

His Ala Asp Cys His Ile Glu Gly Pro Gln Glu Arg Ala Arg Val Ala
580 585 590

His Ala Ala Ala Thr Ala Ala Ala Ser Leu Arg Leu Ala Thr Gly Leu
595 600 605

Gly Thr Met Asn Tyr Pro Thr Ile Leu Pro Ser Gly Val Gly Ser Gly
610 615 620

Lys Gly Ser Thr Ser Pro Gly Pro Lys Gly Lys Trp Ala Gly Gly Pro
625 630 635 640

Pro Gly Thr Gly Gly His Gly Pro Leu Ser Leu Asn Ser Pro Asp Pro
645 650 655

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Tyr Glu Lys Ile Pro His Val Val Gly Glu His Gly Leu Gly Gln Ala
660 665 670

Pro Gly His Leu Ser Gly Leu Ser Val Pro Cys Pro Leu Pro Ser Pro
675 680 685

Pro Ala Gly Thr Leu Thr Cys Glu Leu Lys Ser Cys Pro Tyr Cys Thr
690 695 700

Arg Ala Leu Glu Asp Pro Glu Gly Glu Leu Ser Gly Ser Glu Ser Gly
705 710 715 720

Asp Ser Asp Gly Arg Gly Val Tyr Glu Phe Thr Gln Asp Val Arg His
725 730 735

Gly Asp Arg Trp Asp Pro Thr Arg Pro Pro Arg Ala Thr Asp Thr Pro
740 745 750

Gly Pro Gly Pro Gly Ser Pro Gln Arg Arg Ala Gln Gln Arg Ala Ala
755 760 765

Pro Gly Glu Pro Gly Trp Met Gly Arg Leu Trp Val Thr Phe Ser Gly
770 775 780

Lys Leu Arg Arg Ile Val Asp Ser Lys Tyr Phe Ser Arg Gly Ile Met
785 790 795 800

Met Ala Ile Leu Val Asn Thr Leu Ser Met Gly Val Glu Tyr His Glu
805 810 815

Gln Pro Glu Glu Leu Thr Asn Ala Leu Glu Ile Ser Asn Ile Val Phe
820 825 830

Thr Ser Met Phe Ala Leu Glu Met Leu Leu Lys Leu Leu Ala Cys Gly
835 840 845

Pro Leu Gly Tyr Ile Arg Asn Pro Tyr Asn Ile Phe Asp Gly Ile Ile
850 855 860

Val Val Ile Ser Val Trp Glu Ile Val Gly Gln Ala Asp Gly Gly Leu
865 870 875 880

Ser Val Leu Arg Thr Phe Arg Leu Leu Arg Val Leu Lys Leu Val Arg
885 890 895

Phe Leu Pro Ala Leu Arg Arg Gln Leu Val Val Leu Val Lys Thr Met
900 905 910

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Asp Asn Val Ala Thr Phe Cys Thr Leu Leu Met Leu Phe Ile Phe Ile
915 920 925

Phe Ser Ile Leu Gly Met His Leu Phe Gly Cys Lys Phe Ser Leu Lys
930 935 940

Thr Asp Thr Gly Asp Thr Val Pro Asp Arg Lys Asn Phe Asp Ser Leu
945 950 955 960

Leu Trp Ala Ile Val Thr Val Phe Gln Ile Leu Thr Gln Glu Asp Trp
965 970 975

Asn Val Val Leu Tyr Asn Gly Met Ala Ser Thr Ser Ser Trp Ala Ala
980 985 990

Leu Tyr Phe Val Ala Leu Met Thr Phe Gly Asn Tyr Val Leu Phe Asn
995 1000 1005

Leu Leu Val Ala Ile Leu Val Glu Gly Phe Gln Ala Glu Gly Asp
1010 1015 1020

Ala Asn Arg Ser Asp Thr Asp Glu Asp Lys Thr Ser Val His Phe
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Glu Glu Asp Phe His Lys Leu Arg Glu Leu Gln Thr Thr Glu Leu
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Lys Met Cys Ser Leu Ala Val Thr Pro Asn Gly His Leu Glu Gly
1055 1060 1065

Arg Gly Ser Leu Ser Pro Pro Leu Ile Met Cys Thr Ala Ala Thr
1070 1075 1080

Pro Met Pro Thr Pro Lys Ser Ser Pro Phe Leu Asp Ala Ala Pro
1085 1090 1095

Ser Leu Pro Asp Ser Arg Arg Gly Ser Ser Ser Ser Gly Asp Pro
1100 1105 1110

Pro Leu Gly Asp Gln Lys Pro Pro Ala Ser Leu Arg Ser Ser Pro
1115 1120 1125

Cys Ala Pro Trp Gly Pro Ser Gly Ala Trp Ser Ser Arg Arg Ser
1130 1135 1140

Ser Trp Ser Ser Leu Gly Arg Ala Pro Ser Leu Lys Arg Arg Gly
1145 1150 1155

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Gln Cys Gly Glu Arg Glu Ser Leu Leu Ser Gly Glu Gly Lys Gly
1160 1165 1170

Ser Thr Asp Asp Glu Ala Glu Asp Gly Arg Ala Ala Pro Gly Pro
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Arg Ala Thr Pro Leu Arg Arg Ala Glu Ser Leu Asp Pro Arg Pro
1190 1195 1200

Leu Arg Pro Ala Ala Leu Pro Pro Thr Lys Cys Arg Asp Arg Asp
1205 1210 1215

Gly Gln Val Val Ala Leu Pro Ser Asp Phe Phe Leu Arg Ile Asp
1220 1225 1230

Ser His Arg Glu Asp Ala Ala Glu Leu Asp Asp Asp Ser Glu Asp
1235 1240 1245

Ser Cys Cys Leu Arg Leu His Lys Val Leu Glu Pro Tyr Lys Pro
1250 1255 1260

Gln Trp Cys Arg Ser Arg Glu Ala Trp Ala Leu Tyr Leu Phe Ser
1265 1270 1275

Pro Gln Asn Arg Phe Arg Val Ser Cys Gln Lys Val Ile Thr His
1280 1285 1290

Lys Met Phe Asp His Val Val Leu Val Phe Ile Phe Leu Asn Cys
1295 1300 1305

Val Thr Ile Ala Leu Glu Arg Pro Asp Ile Asp Pro Gly Ser Thr
1310 1315 1320

Glu Arg Val Phe Leu Ser Val Ser Asn Tyr Ile Phe Thr Ala Ile
1325 1330 1335

Phe Val Ala Glu Met Met Val Lys Val Val Ala Leu Gly Leu Leu
1340 1345 1350

Ser Gly Glu His Ala Tyr Leu Gln Ser Ser Trp Asn Leu Leu Asp
1355 1360 1365

Gly Leu Leu Val Leu Val Ser Leu Val Asp Ile Val Val Ala Met
1370 1375 1380

Ala Ser Ala Gly Gly Ala Lys Ile Leu Gly Val Leu Arg Val Leu
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1385 1390 1395

Arg Leu Leu Arg Thr Leu Arg Pro Leu Arg Val Ile Ser Arg Ala
1400 1405 1410

Pro Gly Leu Lys Leu Val Val Glu Thr Leu Ile Ser Ser Leu Arg
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Pro Ile Gly Asn Ile Val Leu Ile Cys Cys Ala Phe Phe Ile Ile
1430 1435 1440

Phe Gly Ile Leu Gly Val Gln Leu Phe Lys Gly Lys Phe Tyr Tyr
1445 1450 1455

Cys Glu Gly Pro Asp Thr Arg Asn Ile Ser Thr Lys Ala Gln Cys
1460 1465 1470

Arg Ala Ala His Tyr Arg Trp Val Arg Arg Lys Tyr Asn Phe Asp
1475 1480 1485

Asn Leu Gly Gln Ala Leu Met Ser Leu Phe Val Leu Ser Ser Lys
1490 1495 1500

Asp Gly Trp Val Asn Ile Met Tyr Asp Gly Leu Asp Ala Val Gly
1505 1510 1515

Val Asp Gln Gln Pro Val Gln Asn His Asn Pro Trp Met Leu Leu
1520 1525 1530

Tyr Phe Ile Ser Phe Leu Leu Ile Val Ser Phe Phe Val Leu Asn
1535 1540 1545

Met Phe Val Gly Val Val Glu Asn Phe His Lys Cys Arg Gln
1550 1555 1560

His Gln Glu Ala Glu Glu Ala Arg Arg Arg Glu Glu Lys Arg Leu
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Arg Arg Leu Glu Arg Arg Arg Ser Thr Phe Pro Ser Pro Glu
1580 1585 1590

Ala Gln Arg Arg Pro Tyr Tyr Ala Asp Tyr Ser Pro Thr Arg Arg
1595 1600 1605

Ser Ile His Ser Leu Cys Thr Ser His Tyr Leu Asp Leu Phe Ile
1610 1615 1620

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Thr Phe Ile Ile Cys Val Asn Val Ile Thr Met Ser Met Glu His
1625 1630 1635

Tyr Asn Gln Pro Lys Ser Leu Asp Glu Ala Leu Lys Tyr Cys Asn
1640 1645 1650

Tyr Val Phe Thr Ile Val Phe Val Phe Glu Ala Ala Leu Lys Leu
1655 1660 1665

Val Ala Phe Gly Phe Arg Arg Phe Phe Lys Asp Arg Trp Asn Gln
1670 1675 1680

Leu Asp Leu Ala Ile Val Leu Leu Ser Leu Met Gly Ile Thr Leu
1685 1690 1695

Glu Glu Ile Glu Met Ser Ala Ala Leu Pro Ile Asn Pro Thr Ile
1700 1705 1710

Ile Arg Ile Met Arg Val Leu Arg Ile Ala Arg Val Leu Lys Leu
1715 1720 1725

Leu Lys Met Ala Thr Gly Met Arg Ala Leu Leu Asp Thr Val Val
1730 1735 1740

Gln Ala Leu Pro Gln Val Gly Asn Leu Gly Leu Leu Phe Met Leu
1745 1750 1755

Leu Phe Phe Ile Tyr Ala Ala Leu Gly Val Glu Leu Phe Gly Arg
1760 1765 1770

Leu Glu Cys Ser Glu Asp Asn Pro Cys Glu Gly Leu Ser Arg His
1775 1780 1785

Ala Thr Phe Ser Asn Phe Gly Met Ala Phe Leu Thr Leu Phe Arg
1790 1795 1800

Val Ser Thr Gly Asp Asn Trp Asn Gly Ile Met Lys Asp Thr Leu
1805 1810 1815

Arg Glu Cys Ser Arg Glu Asp Lys His Cys Leu Ser Tyr Leu Pro
1820 1825 1830

Ala Leu Ser Pro Val Tyr Phe Val Thr Phe Val Leu Val Ala Gln
1835 1840 1845

Phe Val Leu Val Asn Val Val Val Ala Val Leu Met Lys His Leu
1850 1855 1860

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Glu Glu Ser Asn Lys Glu Ala Arg Glu Asp Ala Glu Leu Asp Ala
1865 1870 1875

Glu Ile Glu Leu Glu Met Ala Gln Gly Pro Gly Ser Ala Arg Arg
1880 1885 1890

Val Asp Ala Asp Arg Pro Pro Leu Pro Gln Glu Ser Pro Gly Ala
1895 1900 1905

Arg Asp Ala Pro Asn Leu Val Ala Arg Lys Val Ser Val Ser Arg
1910 1915 1920

Met Leu Ser Leu Pro Asn Asp Ser Tyr Met Phe Arg Pro Val Val
1925 1930 1935

Pro Ala Ser Ala Pro His Pro Arg Pro Leu Gln Glu Val Glu Met
1940 1945 1950

Glu Thr Tyr Gly Ala Gly Thr Pro Leu Gly Ser Val Ala Ser Val
1955 1960 1965

His Ser Pro Pro Ala Glu Ser Cys Ala Ser Leu Gln Ile Pro Leu
1970 1975 1980

Ala Val Ser Ser Pro Ala Arg Ser Gly Glu Pro Leu His Ala Leu
1985 1990 1995

Ser Pro Arg Gly Thr Ala Arg Ser Pro Ser Leu Ser Arg Leu Leu
2000 2005 2010

Cys Arg Gln Glu Ala Val His Thr Asp Ser Leu Glu Gly Lys Ile
2015 2020 2025

Asp Ser Pro Arg Asp Thr Leu Asp Pro Ala Glu Pro Gly Glu Lys
2030 2035 2040

Thr Pro Val Arg Pro Val Thr Gln Gly Gly Ser Leu Gln Ser Pro
2045 2050 2055

Pro Arg Ser Pro Arg Pro Ala Ser Val Arg Thr Arg Lys His Thr
2060 2065 2070

Phe Gly Gln Arg Cys Val Ser Ser Arg Pro Ala Ala Pro Gly Gly
2075 2080 2085

Glu Glu Ala Glu Ala Ser Asp Pro Ala Asp Glu Glu Val Ser His
2090 2095 2100

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Ile Thr Ser Ser Ala Cys Pro Trp Gln Pro Thr Ala Glu Pro His
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Gly Pro Glu Ala Ser Pro Val Ala Gly Gly Glu Arg Asp Leu Arg
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Arg Leu Tyr Ser Val Asp Ala Gln Gly Phe Leu Asp Lys Pro Gly
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Glu Pro Gly Glu Ala Lys Ala Trp Gly Pro Glu Ala Glu Pro Ala
2165 2170 2175

Leu Gly Ala Arg Arg Lys Lys Met Ser Pro Pro Cys Ile Ser
2180 2185 2190

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2195 2200 2205

Ala Glu Gly Gly Ser Thr Thr Leu Arg Arg Arg Thr Pro Ser Cys
2210 2215 2220

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2225 2230 2235

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2255 2260 2265

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Gly Ser His Ser Val Thr Pro Glu Ser Arg Ala Ser Ser Ser Gly
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Ala Ile Val Pro Leu Glu Pro Pro Glu Ser Glu Pro Pro Met Pro
2300 2305 2310

Val Gly Asp Pro Pro Glu Lys Arg Arg Gly Leu Tyr Leu Thr Val
2315 2320 2325

Pro Gln Cys Pro Leu Glu Lys Pro Gly Ser Pro Ser Ala Thr Pro
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2330

2335

2340

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<213> Homo sapiens

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Val Ile Ser Val Trp Glu Ile Val Gly Gln Ala Asp Gly Gly Leu Ser
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Val Leu Arg Thr Phe Arg Leu Leu Arg Val Leu Lys Leu Val Arg Phe
65 70 75 80

Leu Pro Ala Leu Arg Arg Gln Leu Val Val Leu Val Lys Thr Met Asp
85 90 95

Asn Val Ala Thr Phe Cys Thr Leu Leu Met Leu Phe Ile Phe Ile Phe
100 105 110

Ser Ile Leu Gly Met His Leu Phe Gly Cys Lys Phe Ser Leu Lys Thr
115 120 125

Asp Thr Gly Asp Thr Val Pro Asp Arg Lys Asn Phe Asp Ser Leu Leu
130 135 140

Trp Ala Ile Val Thr Val Phe Gln Ile Leu Thr Gln Glu Asp Trp Asn
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Val Val Leu Tyr Asn Gly Met Ala Ser Thr Ser Ser Trp Ala Ala Leu
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Tyr Phe Val Ala Leu Met Thr Phe Gly Asn Tyr Val Leu Phe Asn Leu
180 185 190

Leu Val Ala Ile Leu Val Glu Gly Phe Gln Ala Glu Gly Asp Ala Asn
195 200 205

Arg Ser Asp Thr Asp Glu Asp Lys Thr Ser Val His Phe Glu Glu Asp
210 215 220

Phe His Lys Leu Arg Glu Leu Gln Thr Thr Glu Leu Lys Met Cys Ser
225 230 235 240

Leu Ala Val Thr Pro Asn Gly His Leu Glu Gly Arg Gly Ser Leu Ser
245 250 255

Pro Pro Leu Ile Met Cys Thr Ala Ala Thr Pro Met Pro Thr Pro Lys
260 265 270

Ser Ser Pro Phe Leu Asp Ala Ala Pro Ser Leu Pro Asp Ser Arg Arg
275 280 285

Gly Ser Ser Ser Ser Gly Asp Pro Pro Leu Gly Asp Gln Lys Pro Pro
290 295 300

Ala Ser Leu Arg Ser Ser Pro Cys Ala Pro Trp Gly Pro Ser Gly Ala
305 310 315 320

Trp Ser Ser Arg Arg Ser Ser Trp Ser Ser Leu Gly Arg Ala Pro Ser
325 330 335

Leu Lys Arg Arg Gly Gln Cys Gly Glu Arg Glu Ser Leu Leu Ser Gly
340 345 350

Glu Gly Lys Gly Ser Thr Asp Asp Glu Ala Glu Asp Gly Arg Ala Ala
355 360 365

Pro Gly Pro Arg Ala Thr Pro Leu Arg Arg Ala Glu Ser Leu Asp Pro
370 375 380

Arg Pro Leu Arg Pro Ala Ala Leu Pro Pro Thr Lys Cys Arg Asp Arg
385 390 395 400

Asp Gly Gln Val Val Ala Leu Pro Ser Asp Phe Phe Leu Arg Ile Asp
405 410 415

Ser His Arg Glu Asp Ala Ala Glu Leu Asp Asp Asp Ser Glu Asp Ser
420 425 430

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Cys Cys Leu Arg Leu His Lys Val Leu Glu Pro Tyr Lys Pro Gln Trp
435 440 445

Cys Arg Ser Arg Glu Ala Trp Ala Leu Tyr Leu Phe Ser Pro Gln Asn
450 455 460

Arg Phe Arg Val Ser Cys Gln Lys Val Ile Thr His Lys Met Phe Asp
465 470 475 480

His Val Val Leu Val Phe Ile Phe Leu Asn Cys Val Thr Ile Ala Leu
485 490 495

Glu Arg Pro Asp Ile Asp Pro Gly Ser Thr Glu Arg Val Phe Leu Ser
500 505 510

Val Ser Asn Tyr Ile Phe Thr Ala Ile Phe Val Ala Glu Met Met Val
515 520 525

Lys Val Val Ala Leu Gly Leu Leu Ser Gly Glu His Ala Tyr Leu Gln
530 535 540

Ser Ser Trp Asn Leu Leu Asp Gly Leu Leu Val Leu Val Ser Leu Val
545 550 555 560

Asp Ile Val Val Ala Met Ala Ser Ala Gly Gly Ala Lys Ile Leu Gly
565 570 575

Val Leu Arg Val Leu Arg Leu Leu Arg Thr Leu Arg Pro Leu Arg Val
580 585 590

Ile Ser Arg Ala Pro Gly Leu Lys Leu Val Val Glu Thr Leu Ile Ser
595 600 605

Ser Leu Arg Pro Ile Gly Asn Ile Val Leu Ile Cys Cys Ala Phe Phe
610 615 620

Ile Ile Phe Gly Ile Leu Gly Val Gln Leu Phe Lys Gly Lys Phe Tyr
625 630 635 640

Tyr Cys Glu Gly Pro Asp Thr Arg Asn Ile Ser Thr Lys Ala Gln Cys
645 650 655

Arg Ala Ala His Tyr Arg Trp Val Arg Arg Lys Tyr Asn Phe Asp Asn
660 665 670

Leu Gly Gln Ala Leu Met Ser Leu Phe Val Leu Ser Ser Lys Asp Gly
675 680 685

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Trp Val Asn Ile Met Tyr Asp Gly Leu Asp Ala Val Gly Val Asp Gln
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Gln Pro Val Gln Asn His Asn Pro Trp Met Leu Leu Tyr Phe Ile Ser
705 710 715 720

Phe Leu Leu Ile Val Ser Phe Phe Val Leu Asn Met Phe Val Gly Val
725 730 735

Val Val Glu Asn Phe His Lys Cys Arg Gln His Gln Glu Ala Glu Glu
740 745 750

Ala Arg Arg Arg Glu Glu Lys Arg Leu Arg Arg Leu Glu Arg Arg Arg
755 760 765

Arg Ser Thr Phe Pro Ser Pro Glu Ala Gln Arg Arg Pro Tyr Tyr Ala
770 775 780

Asp Tyr Ser Pro Thr Arg Arg Ser Ile His Ser Leu Cys Thr Ser His
785 790 795 800

Tyr Leu Asp Leu Phe Ile Thr Phe Ile Cys Val Asn Val Ile Thr
805 810 815

Met Ser Met Glu His Tyr Asn Gln Pro Lys Ser Leu Asp Glu Ala Leu
820 825 830

Lys Tyr Cys Asn Tyr Val Phe Thr Ile Val Phe Val Phe Glu Ala Ala
835 840 845

Leu Lys Leu Val Ala Phe Gly Phe Arg Arg Phe Phe Lys Asp Arg Trp
850 855 860

Asn Gln Leu Asp Leu Ala Ile Val Leu Leu Ser Leu Met Gly Ile Thr
865 870 875 880

Leu Glu Glu Ile Glu Met Ser Ala Ala Leu Pro Ile Asn Pro Thr Ile
885 890 895

Ile Arg Ile Met Arg Val Leu Arg Ile Ala Arg Val Leu Lys Leu Leu
900 905 910

Lys Met Ala Thr Gly Met Arg Ala Leu Leu Asp Thr Val Val Gln Ala
915 920 925

Leu Pro Gln Val Gly Asn Leu Gly Leu Leu Phe Met Leu Leu Phe Phe
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930

935

940

Ile Tyr Ala Ala Leu Gly Val Glu Leu Phe Gly Arg Leu Glu Cys Ser
945 950 955 960

Glu Asp Asn Pro Cys Glu Gly Leu Ser Arg His Ala Thr Phe Ser Asn
965 970 975

Phe Gly Met Ala Phe Leu Thr Leu Phe Arg Val Ser Thr Gly Asp Asn
980 985 990

Trp Asn Gly Ile Met Lys Asp Thr Leu Arg Glu Cys Ser Arg Glu Asp
995 1000 1005

Lys His Cys Leu Ser Tyr Leu Pro Ala Leu Ser Pro Val Tyr Phe
1010 1015 1020

Val Thr Phe Val Leu Val Ala Gln Phe Val Leu Val Asn Val Val
1025 1030 1035

Val Ala Val Leu Met Lys His Leu Glu Glu Ser Asn Lys Glu Ala
1040 1045 1050

Arg Glu Asp Ala Glu Leu Asp Ala Glu Ile Glu Leu Glu Met Ala
1055 1060 1065

Gln Gly Pro Gly Ser Ala Arg Arg Val Asp Ala Asp Arg Pro Pro
1070 1075 1080

Leu Pro Gln Glu Ser Pro Gly Ala Arg Asp Ala Pro Asn Leu Val
1085 1090 1095

Ala Arg Lys Val Ser Val Ser Arg Met Leu Ser Leu Pro Asn Asp
1100 1105 1110

Ser Tyr Met Phe Arg Pro Val Val Pro Ala Ser Ala Pro His Pro
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Arg Pro Leu Gln Glu Val Glu Met Glu Thr Tyr Gly Ala Gly Thr
1130 1135 1140

Pro Leu Gly Ser Val Ala Ser Val His Ser Pro Pro Ala Glu Ser
1145 1150 1155

Cys Ala Ser Leu Gln Ile Pro Leu Ala Val Ser Ser Pro Ala Arg
1160 1165 1170

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Ser Gly Glu Pro Leu His Ala Leu Ser Pro Arg Gly Thr Ala Arg
1175 1180 1185

Ser Pro Ser Leu Ser Arg Leu Leu Cys Arg Gln Glu Ala Val His
1190 1195 1200

Thr Asp Ser Leu Glu Gly Lys Ile Asp Ser Pro Arg Asp Thr Leu
1205 1210 1215

Asp Pro Ala Glu Pro Gly Glu Lys Thr Pro Val Arg Pro Val Thr
1220 1225 1230

Gln Gly Gly Ser Leu Gln Ser Pro Pro Arg Ser Pro Arg Pro Ala
1235 1240 1245

Ser Val Arg Thr Arg Lys His Thr Phe Gly Gln His Cys Val Ser
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Ser Arg Pro Ala Ala Pro Gly Gly Glu Glu Ala Glu Ala Ser Asp
1265 1270 1275

Pro Ala Asp Glu Glu Val Ser His Ile Thr Ser Ser Ala Cys Pro
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Trp Gln Pro Thr Ala Glu Pro His Gly Pro Glu Ala Ser Pro Val
1295 1300 1305

Ala Gly Gly Glu Arg Asp Leu Arg Arg Leu Tyr Ser Val Asp Ala
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Gln Gly Phe Leu Asp Lys Pro Gly Arg Ala Asp Glu Gln Trp Arg
1325 1330 1335

Pro Ser Ala Glu Leu Gly Ser Gly Glu Pro Gly Glu Ala Lys Ala
1340 1345 1350

Trp Gly Pro Glu Ala Glu Pro Ala Leu Gly Ala Arg Arg Lys Lys
1355 1360 1365

Lys Met Ser Pro Pro Cys Ile Ser Val Glu Pro Pro Ala Glu Asp
1370 1375 1380

Glu Gly Ser Ala Arg Pro Ser Ala Ala Glu Gly Gly Ser Thr Thr
1385 1390 1395

Leu Arg Arg Arg Thr Pro Ser Cys Glu Ala Thr Pro His Arg Asp
1400 1405 1410

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Ser Leu Glu Pro Thr Glu Gly Ser Gly Ala Gly Gly Asp Pro Ala
1415 1420 1425

Ala Lys Gly Glu Arg Trp Gly Gln Ala Ser Cys Arg Ala Glu His
1430 1435 1440

Leu Thr Val Pro Ser Phe Ala Phe Glu Pro Leu Asp Leu Gly Val
1445 1450 1455

Pro Ser Gly Asp Pro Phe Leu Asp Gly Ser His Ser Val Thr Pro
1460 1465 1470

Glu Ser Arg Ala Ser Ser Ser Gly Ala Ile Val Pro Leu Glu Pro
1475 1480 1485

Pro Glu Ser Glu Pro Pro Met Pro Val Gly Asp Pro Pro Glu Lys
1490 1495 1500

Arg Arg Gly Leu Tyr Leu Thr Val Pro Gln Cys Pro Leu Glu Lys
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Pro Gly Ser Pro Ser Ala Thr Pro Ala Pro Gly Gly Gly Ala Asp
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Asp Pro Val
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pha4262.ST25.txt

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pha4262.ST25.txt

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Lys Lys Lys Cys Ile Ala Lys Asp Tyr Gly Arg Cys Lys Trp Gly Gly
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Thr Pro Cys Cys Arg Gly Arg Gly Cys Ile Cys Ser Ile Met Gly Thr
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Tyr Leu Lys Ser Gly Cys Lys Cys Val Val Gly Thr Ser Ala Glu Phe
35 40 45

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20 25

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Asn Asp Asp Cys Cys Pro Arg Leu Gly Cys His Ser Leu Phe Ser Tyr
20 25 30

Cys Ala Trp Asp Leu Thr Phe Ser Asp
35 40